OMB Number: 4040-0004
Expiration Date: 12/31/2022

Application for Federal Assistance SF-424

* 1. Type of Submission:	* 2. Type of Application:	* If Revision, select appropriate letter(s):
☐ Preapplication	☒ New	
☒ Application	☐ Continuation	* Other (Specify):
☐ Changed/Corrected Application	☐ Revision	

* 3. Date Received:	4. Applicant Identifier:
05/18/2020	Village of Savoy

5a. Federal Entity Identifier:	5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:	7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:	Savoy, Village of

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
[redacted]	[redacted]

d. Address:

* Street1:	611 N. Dunlap Ave.
Street2:	
* City:	Savoy
County/Parish:	Champaign
* State:	IL: Illinois
Province:	
* Country:	USA: UNITED STATES
* Zip / Postal Code:	61874-8406

e. Organizational Unit:

Department Name:	Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:		* First Name:	Levi
Middle Name:			
* Last Name:	Kopmann		
Suffix:			

Title:	Acting Manager / Director of Public Works

Organizational Affiliation:

* Telephone Number:	2173595894	Fax Number:	

* Email:	levi.kopmann@savoy.illinois.gov

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Department of Transportation

11. Catalog of Federal Domestic Assistance Number:

20.933

CFDA Title:

National Infrastructure Investments

*** 12. Funding Opportunity Number:**

DTOS59-20-RA-BUILD

* Title:

FY 2020 National Infrastructure Investments

13. Competition Identification Number:

BUILD2-FY20

Title:

FY20 BUILD GRANT

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Curtis Road Grade Separation and Complete Streets Project

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: IL-013 * b. Program/Project: IL-013

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 09/01/2020 * b. End Date: 12/31/2025

18. Estimated Funding ($):

* a. Federal	20,457,900.00
* b. Applicant	4,800,000.00
* c. State	12,000,000.00
* d. Local	862,500.00
* e. Other	2,245,000.00
* f. Program Income	0.00
* g. TOTAL	40,365,400.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name: Levi

Middle Name:

* Last Name: Kopmann

Suffix:

* Title: Acting Manager

* Telephone Number: 2173595894 Fax Number:

* Email: levi.kopmann@savoy.illinois.gov

* Signature of Authorized Representative: Levi L Kopmann * Date Signed: 05/18/2020

ATTACHMENTS FORM

Instructions: On this form, you will attach the various files that make up your grant application. Please consult with the appropriate Agency Guidelines for more information about each needed file. Please remember that any files you attach must be in the document format and named as specified in the Guidelines.

Important: Please attach your files in the proper sequence. See the appropriate Agency Guidelines for details.

1) Please attach Attachment 1	1234-BUILD Cover Letter Dykst	Add Attachment	Delete Attachment	View Attachment
2) Please attach Attachment 2	1235-FY 2020 BUILD Applicatio	Add Attachment	Delete Attachment	View Attachment
3) Please attach Attachment 3	1236-SF424C_2_0-V2.0 (1).pdf	Add Attachment	Delete Attachment	View Attachment
4) Please attach Attachment 4	1237-Form PerformanceSite_2_0	Add Attachment	Delete Attachment	View Attachment
5) Please attach Attachment 5	1238-Curtis Road Grade Separa	Add Attachment	Delete Attachment	View Attachment
6) Please attach Attachment 6	1239-Savoy BUILD Letters of $	Add Attachment	Delete Attachment	View Attachment
7) Please attach Attachment 7	1240-AttachmentForm_1_2-ATT5-	Add Attachment	Delete Attachment	View Attachment
8) Please attach Attachment 8		Add Attachment	Delete Attachment	View Attachment
9) Please attach Attachment 9		Add Attachment	Delete Attachment	View Attachment
10) Please attach Attachment 10		Add Attachment	Delete Attachment	View Attachment
11) Please attach Attachment 11		Add Attachment	Delete Attachment	View Attachment
12) Please attach Attachment 12		Add Attachment	Delete Attachment	View Attachment
13) Please attach Attachment 13		Add Attachment	Delete Attachment	View Attachment
14) Please attach Attachment 14		Add Attachment	Delete Attachment	View Attachment
15) Please attach Attachment 15		Add Attachment	Delete Attachment	View Attachment

Savoy
ILLINOIS

May 18, 2020

Honorable Elaine L. Chao
Secretary of Transportation
1200 New Jersey Ave., SE 9th Floor
Washington, DC 20590

Dear Secretary Chao,

I am pleased to submit for your consideration the FY 2020 BUILD Grant application for funding assistance toward the ***Curtis Road Grade Separation + Complete Streets Project*** located in Savoy, Illinois. This project has been a keystone of the long-term plan and strategic vision of the regional community for twenty years. Construction of the Curtis Road grade separation bridge will create a safer and improved crossing with Canadian National/IC Railroad for motorists, bicyclists and pedestrians, resulting in increased mobility and improved access to the existing transportation network of Champaign-Urbana Urbanized Area.

As part of our commitment to provide our residents and Champaign County with a safe, efficient and multimodal transportation system, Savoy has successfully secured nearly 50% of the estimated overall project cost of $40,365,400 through local, county, and state resources. As a result, Savoy seeks to secure FY 2020 BUILD funding for the remaining $20,457,900 of project costs.

Completion of the ***Curtis Road Grade Separation + Complete Streets Project*** is critical not only for Savoy, but also for our neighboring communities as we strive to achieve the safety, economic, and sustainability goals that have been set and pursued by our residents and leaders. For these reasons, I respectfully request that the United States Department of Transportation give full consideration of BUILD funding toward this project.

Sincerely,

[redacted]

Joan E. Dykstra
President, Village of Savoy

CURTIS ROAD GRADE SEPARATION +

COMPLETE STREETS PROJECT

FY 2020 BUILD APPLICATION

May 18th, 2020

Submitted by Savoy ILLINOIS

Tracking Number:GRANT13108875 Funding Opportunity Number:DTOS59-20-RA-BUILD Received Date:May 18, 2020 11:42:27 AM EDT

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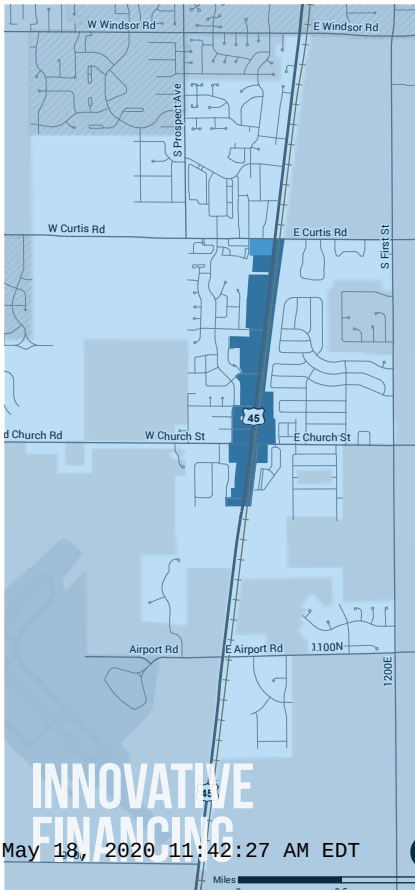


I. PROJECT DESCRIPTION

THE CURTIS ROAD GRADE SEPARATION + COMPLETE STREETS PROJECT would improve safety, reduce delays, and improve access from I-57 to the Cities of Champaign and Urbana, the Village of Savoy, and the University of Illinois and the University's attractions such as the Research Park, athletic facilities, and the world renowned agricultural research fields known as the South Farms located along Curtis Road. The grade separation and roadway improvements would also connect people to jobs and improve response times for medical and fire emergency services and improve reliability of transit service. In addition, bicycle lanes and off-street shared-use paths for bicycles and pedestrians will be provided on Curtis Road and First Street, where no bicycle facilities and only partial pedestrian facilities currently exist. The Champaign County Bikes Organization, Inc., a regional group that promotes and facilitates bicycling in the county, designated this section of Curtis Road as a "Use Caution Route" on their **2016 Champaign-Urbana-Savoy Bicycle Guide**[1].

The Curtis Road Grade Separation + Complete Streets Project encompasses a railroad grade separation, 0.85 miles of roadway improvements on the east-west arterial road (Curtis Road), and 1.00 miles of **shared path improvements along First Street**[19] in the Village of Savoy, Illinois. The roadway would be improved from two lanes to a four lane cross section with a turning lane and off-street shared-use paths on the north and south sides of the roadway from Wesley Avenue to the intersection of Curtis Road with US 45. The improved roadway would match the existing section of Curtis Road west of Wesley Avenue and extend the existing bike and pedestrian network. The intersection of Curtis Road with US 45 would be improved to accommodate turning lanes as well as pedestrian crosswalks on all legs of the intersection and pedestrian countdown signals as approved in the **2004 Combined Design Study Report**[2]. East of the intersection, under the railroad overpass to First Street, the roadway would narrow from four lanes with a turning lane down to two lanes with a turning lane. The off-street shared-use paths would continue from Wesley Avenue to First Street and continue north to Windsor Road. The roadway segment from US 45 to First Street would include on-street bike lanes in addition to the off-street shared-use paths.

The intersection of Curtis Road and First Street would be improved with an additional turning lane on the westbound Curtis Road approach as well as a right turning lane on the southbound First Street approach. Bike and pedestrian crosswalks as well as countdown signals would be provided at the intersection as well as a traffic signal due to current and projected traffic volumes.

A relocation of the railroad track and embankment will be required to develop a grade separated crossing over Curtis Road just east of US 45. The relocation will involve raising the track profile approximately 15 feet and lowering Curtis Road approximately 5 feet in order to achieve the roadway underpass. The vertical railroad relocation will be developed along a new horizontal track alignment, which is offset 60 (+/-) feet east of the existing track. The track relocation will start just north of the existing at-grade crossing of Church Street (south of Curtis Road) in Savoy and end at the existing railroad bridge over Windsor Road (north of Curtis Road) in Champaign, a total distance of 2.1 miles. A railroad bridge, 183 feet in length and 19.5 feet wide, will be required to span the new Curtis Road width. Additional substructure improvements are included for future second track accommodations by the railroad.

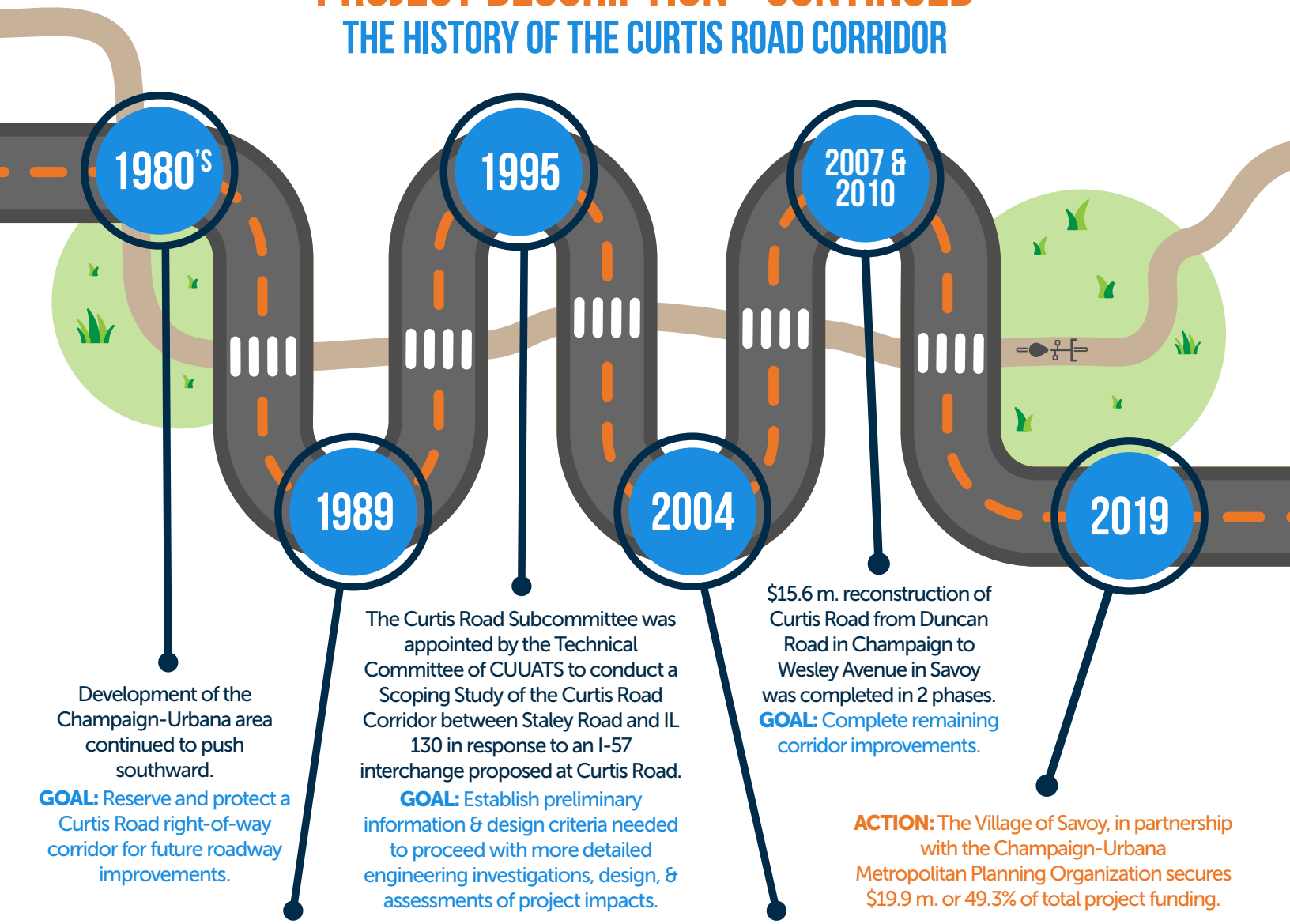
Curtis Road has become the main access route for the Village of Savoy following the additions of the Curtis Road Interchange on Interstate 57 (opened in 2008) and consequent upgrades to Curtis Road from the interchange east to Wesley Avenue. A major priority of the Village as part of long-term planning is to take full advantage of the I-57 interchange and create a more accessible commercial and residential corridor that would also serve as a regional gateway to the University of Illinois, the City of Champaign, and the City of Urbana. The current conditions of Curtis Road from Wesley Avenue to First Street as a three and two-lane cross section with an at-grade railroad crossing, only partial pedestrian facilities, and without any bicycle facilities is not optimal for a roadway that experiencing an increase in traffic volumes due to its interstate access, proximity to so many residential, commercial, and university destinations, and use as a transit route. The Curtis Road Grade Separation + Complete Streets Project would increase business opportunities and residential development by improving accessibility and mobility for all modes of transportation within the Village of Savoy, but would also increase access between the communities of Savoy, Champaign, Urbana, and the University of Illinois. This project would also support the Village's plan to help develop areas near the University of Illinois Willard Airport to increase the benefits that the airport has to offer.

In 2017, the **Curtis Road Corridor Study**[3] was updated which included the Curtis Road Grade Separation + Complete Streets Project as one of its priority recommendations. The most prominent roadway deficiency identified in the Curtis Road Corridor Study is the Curtis Road at-grade railroad crossing. Public comments (detailed in **Curtis Road Corridor Study Appendix A: Public Involvement**[4]) revealed a broad desire for a grade separation to improve traffic flow by eliminating delays due to trains' blockage at the intersection, as well as improving the roadway surface. The traffic delays created by trains can impact the Champaign-Urbana Mass Transit District (MTD) bus schedules and are a particular limitation for emergency vehicles serving the Village of Savoy from the urbanized area east of the railroad tracks as well as Savoy's own Fire Protection District (FPD). Savoy FPD is located on the west side of the railroad tracks but is responsible for locations on both sides of the tracks. Savoy FPD frequently uses Curtis Road to respond to emergencies in the Parkview Senior Apartments located just east of the railroad tracks as well as other residential areas. Delays occasionally require Savoy FPD to send another apparatus via the underpass on Windsor Road, resulting in additional response time and use of additional emergency response resources. Furthermore, the close proximity of the at-grade railroad crossing to the high volume intersection at US 45/ Dunlap Avenue and Curtis Road presents difficult conditions for all modes of transportation, especially for fire engines, MTD buses and other large trucks and delivery vehicles due to the limited maneuvering space between the intersection and the railroad tracks.

"THE TRAFFIC DELAYS CREATED BY TRAINS CAN IMPACT THE MTD BUS SCHEDULES AND ARE A PARTICULAR LIMITATION FOR EMERGENCY VEHICLES SERVING THE VILLAGE OF SAVOY."

PROJECT DESCRIPTION - CONTINUED

THE HISTORY OF THE CURTIS ROAD CORRIDOR



1980'S

Development of the Champaign-Urbana area continued to push southward.

GOAL: Reserve and protect a Curtis Road right-of-way corridor for future roadway improvements.

1989

ACTION: The Champaign-Urbana Urbanized Area Transportation Study (CUUATS) Policy Committee passed a resolution reserving 100 ft. of right-of-way along Curtis Road from Staley Road in Champaign to Illinois Route 130 in Urbana.

1995

The Curtis Road Subcommittee was appointed by the Technical Committee of CUUATS to conduct a Scoping Study of the Curtis Road Corridor between Staley Road and IL 130 in response to an I-57 interchange proposed at Curtis Road.

GOAL: Establish preliminary information & design criteria needed to proceed with more detailed engineering investigations, design, & assessments of project impacts.

2004

ACTION: A Combined Design Study Report for Curtis Road Improvements from Duncan Road in Champaign to First Street in Savoy was completed by Clark Dietz.

2007 & 2010

$15.6 m. reconstruction of Curtis Road from Duncan Road in Champaign to Wesley Avenue in Savoy was completed in 2 phases.

GOAL: Complete remaining corridor improvements.

2019

ACTION: The Village of Savoy, in partnership with the Champaign-Urbana Metropolitan Planning Organization secures $19.9 m. or 49.3% of total project funding.

2020

The LAST phase of the Curtis Road Corridor improvements, from Wesley Avenue to First Street in Savoy, are outlined in this grant application. This includes the proposed grade separation at the railroad crossing. The grade separation and associated roadway improvements have been reflected in the three most recent Long Range Transportation Plans (2014, 2009, and 2004) as well as other local and regional plans detailed in this narrative.

CURTIS ROAD CORRIDOR CONTEXT SENSITIVE SOLUTIONS

The US 45/Dunlap Avenue and Curtis Road intersection and the First Street and Curtis Road intersection both experience congestion with poor level of service operations during the afternoon peak hours on typical weekdays:

23%
increase in ADT for
Eastbound Curtis Road
over the past 10 years.

18%
increase in ADT for
Westbound Curtis Road
over the past 10 years.

LOS E
for westbound Curtis Road Traffic at US 45/Dunlap Avenue
Average Control Delay 57.0 seconds per vehicle

LOS D
at the First street & Curtis Road Intersection
with southbound First Street traffic operating at a LOS E
Average Control Delay 49.6 sec./vehicle (worst movement)

The entire segment of Curtis Road and First Street currently has no bicycle facilities; pedestrian facilities along Curtis Road are limited and are not ADA compliant. There are significant gaps in the pedestrian network on the north and south sides of Curtis Road east and west of the railroad tracks.

SOLUTION: Increase roadway capacity and enhance multimodal mobility/connectivity.

Commercial, residential, and agricultural land uses are all present immediately adjacent to the project roadway. Commercial and residential uses dominate the section of roadway to the west of the railroad tracks currently bisecting the project roadway, while residential and agricultural land uses dominate the section of roadway to the east of the railroad. Over the next 10-20 years, municipal comprehensive plans envision increases in residential development and commercial activities along Curtis Road between Mattis Avenue and Prospect Avenue west of the project location, along US 45 adjacent to the project location, and around Willard Airport south of the project location. Additional growth of the Research Park at the University of Illinois is anticipated to grow beyond the 120 companies and 2100 jobs employing people in high-tech careers.

SOLUTION: Improved infrastructure that connects people to jobs.

The physical setting and environmental conditions have been evaluated within the Curtis Road corridor. Due to the low topography and significant occurrence of hydric soils along the corridor, poor drainage will require additional drainage infrastructure to be developed as part of the project improvements. Natural landscapes, including prairie, exist within the railroad corridor and air quality and water quality currently meet state & federal standards. In 2004, the **Combined Design Report for the Curtis Road Corridor (page 19)**[2] yielded a Class of Action Determination meeting the Categorical Exclusion definition contained in 23 CFR 771.117(a). The project's environmental clearances have been updated since expiring. Anticipated results are that the project will not have any significant impact on any natural, cultural, recreational, historical, or other air, noise or water quality resources.

SOLUTION: Implement low-impact design solutions that will complement the surrounding environment and will maintain the sustainability of the Curtis Road Corridor.

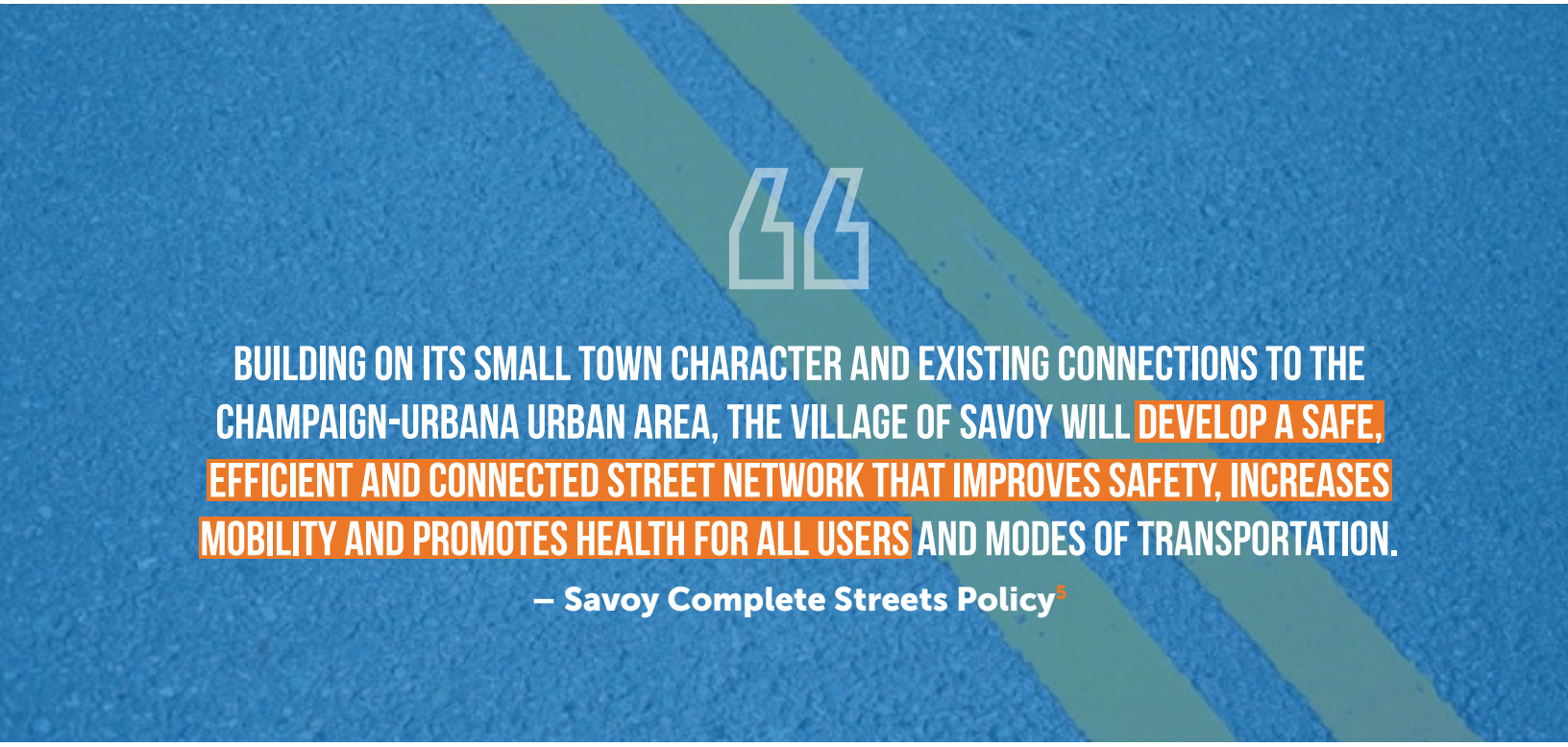
II. PROJECT LOCATION

THE LOCATION OF the Curtis Road Grade Separation + Complete Streets Project is depicted on the maps in this section. The Village of Savoy is located in the Champaign-Urbana Urbanized Area in Champaign County in east central Illinois. Champaign County is known for flat prairie land and agricultural cropland dominated by corn and soybeans. The Champaign-Urbana Urbanized Area is home to the University of Illinois flagship campus (Fall 2017 enrollment 44,880) as well as the City of Champaign, the City of Urbana, the Village of Savoy, the Village of Tolono, and the Village of Bondville. The project is not included in an Opportunity Zone.

LOCATION	TOTAL POPULATION ACS 2011-2015 5 YEAR ESTIMATES
Champaign County	207,946
Urbanized Area	150,599
City of Champaign	85,710
City of Urbana	42,141
Village of Savoy*	8,700*
Village of Tolono	2,900
Village of Bondville	473

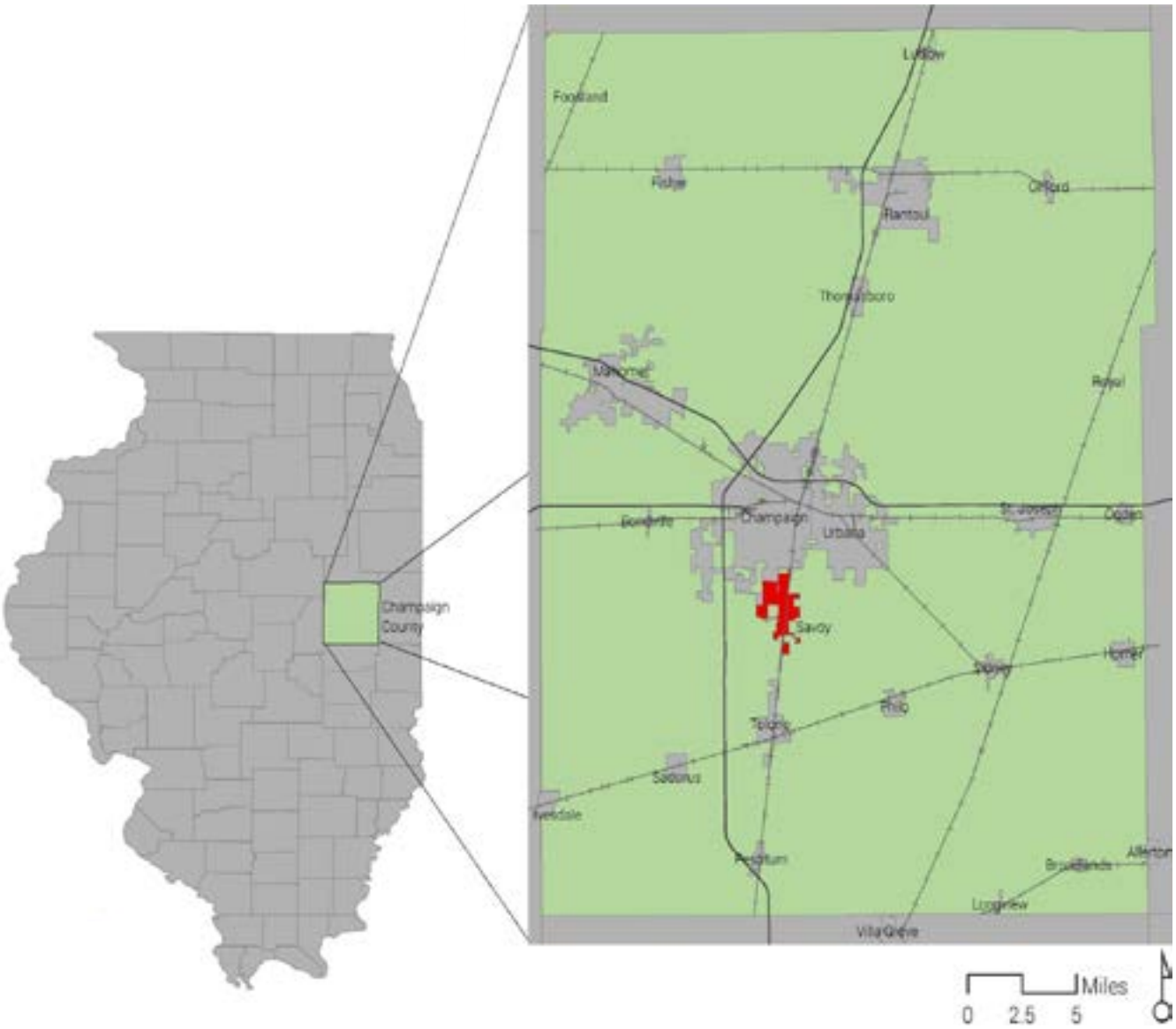
*2016 Savoy Special Census

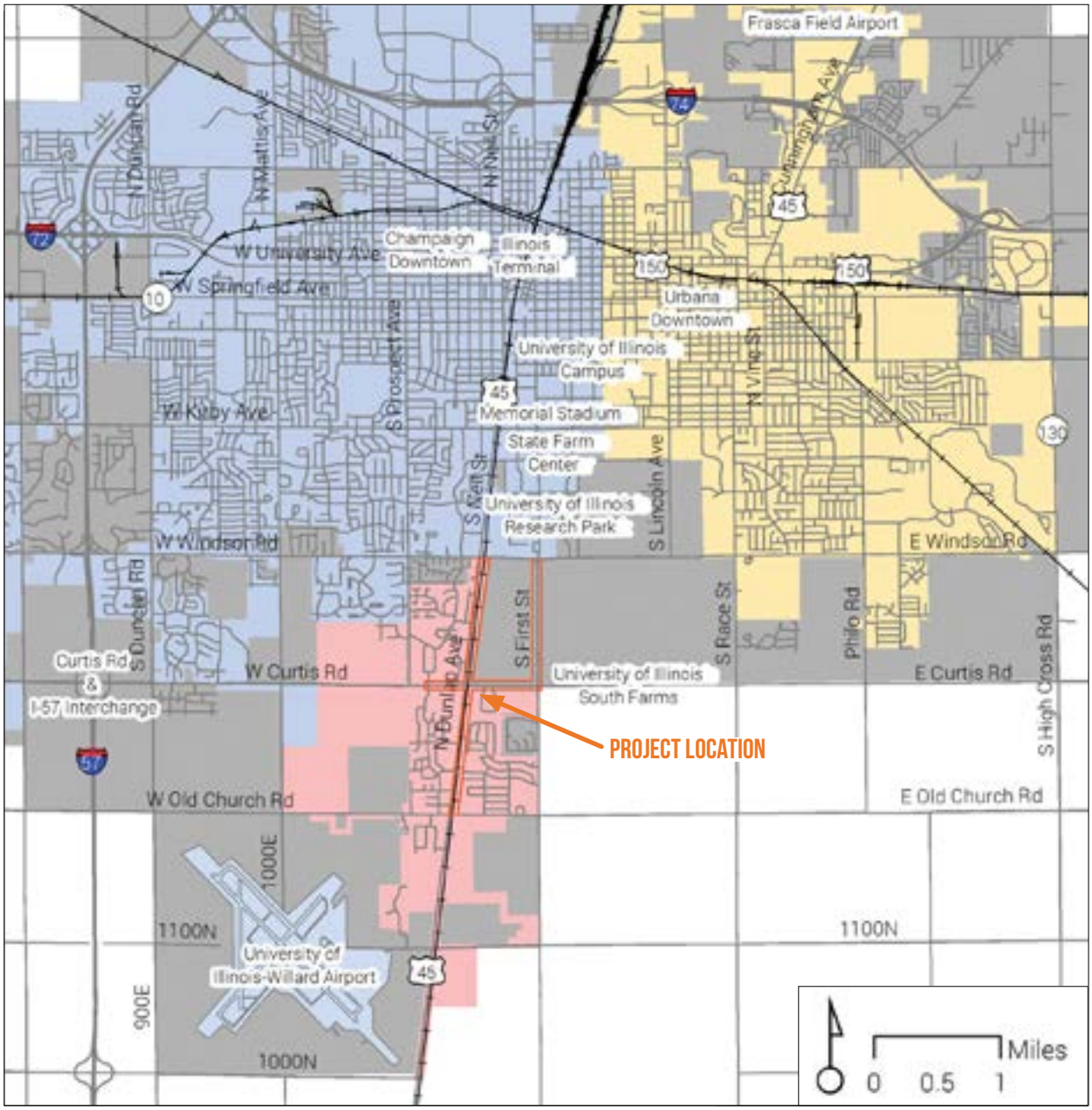
The Curtis Road Grade Separation + Complete Streets Project would improve connectivity for pedestrians, bicycles, automobiles, buses, and emergency vehicles within the village and between the village and the surrounding area. This includes a significant amount of village residents accessing or working at the University of Illinois. A variety of land use, zoning, physical, environmental, and transportation data that define the project location are included herein.



> BUILDING ON ITS SMALL TOWN CHARACTER AND EXISTING CONNECTIONS TO THE CHAMPAIGN-URBANA URBAN AREA, THE VILLAGE OF SAVOY WILL DEVELOP A SAFE, EFFICIENT AND CONNECTED STREET NETWORK THAT IMPROVES SAFETY, INCREASES MOBILITY AND PROMOTES HEALTH FOR ALL USERS AND MODES OF TRANSPORTATION.
>
> **– Savoy Complete Streets Policy**[5]

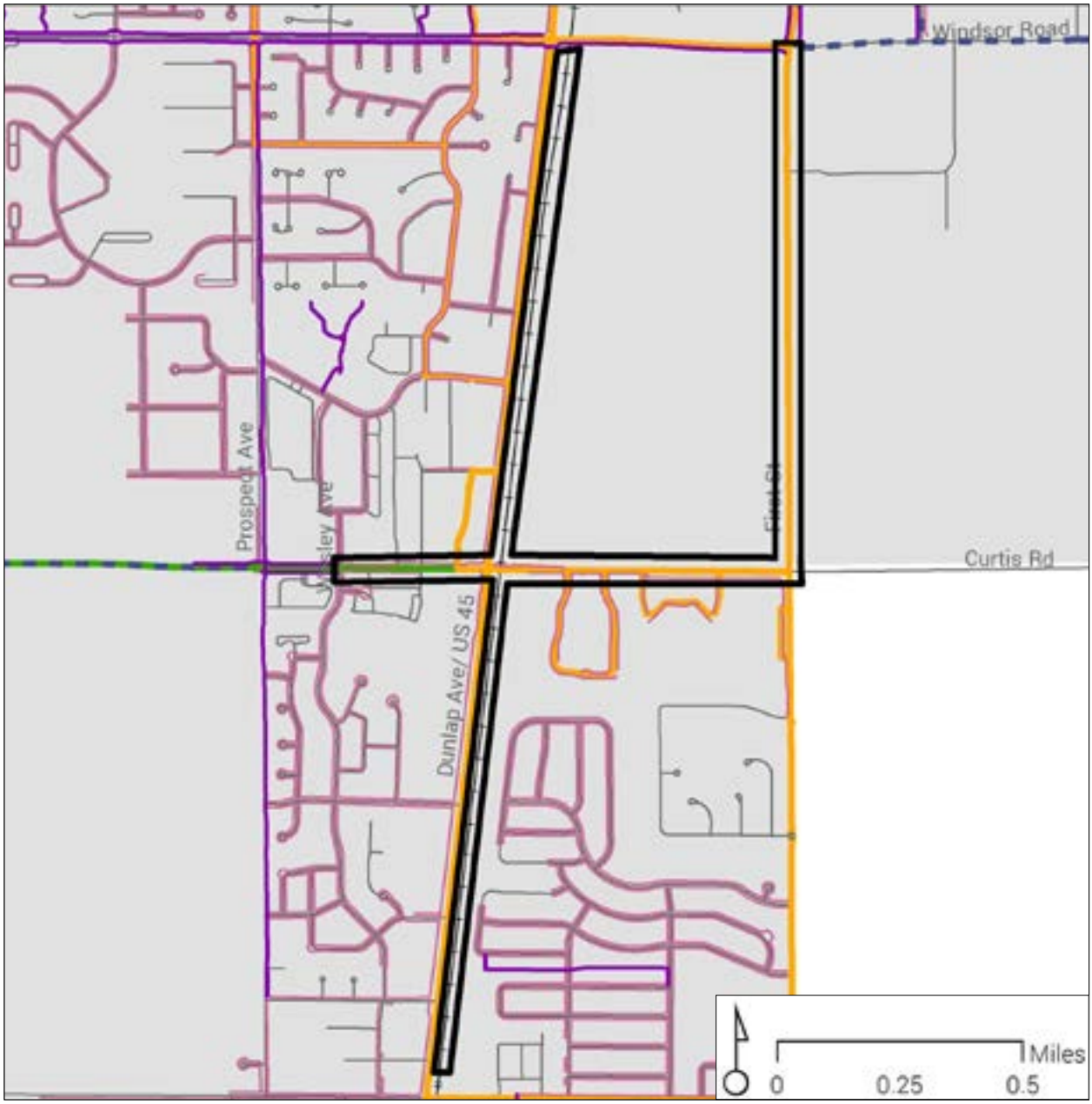
STATE AND REGIONAL LOCATOR MAP





PROJECT LOCATION AND URBANIZED AREA

- City of Champaign
- Village of Savoy
- City of Urbana
- Urbanized Area Boundary
- Railroads
- Local Roads
- Interstate
- US Route
- State Road
- Savoy Grade Separation and Complete Streets Project



TRANSPORTATION CONNECTIONS

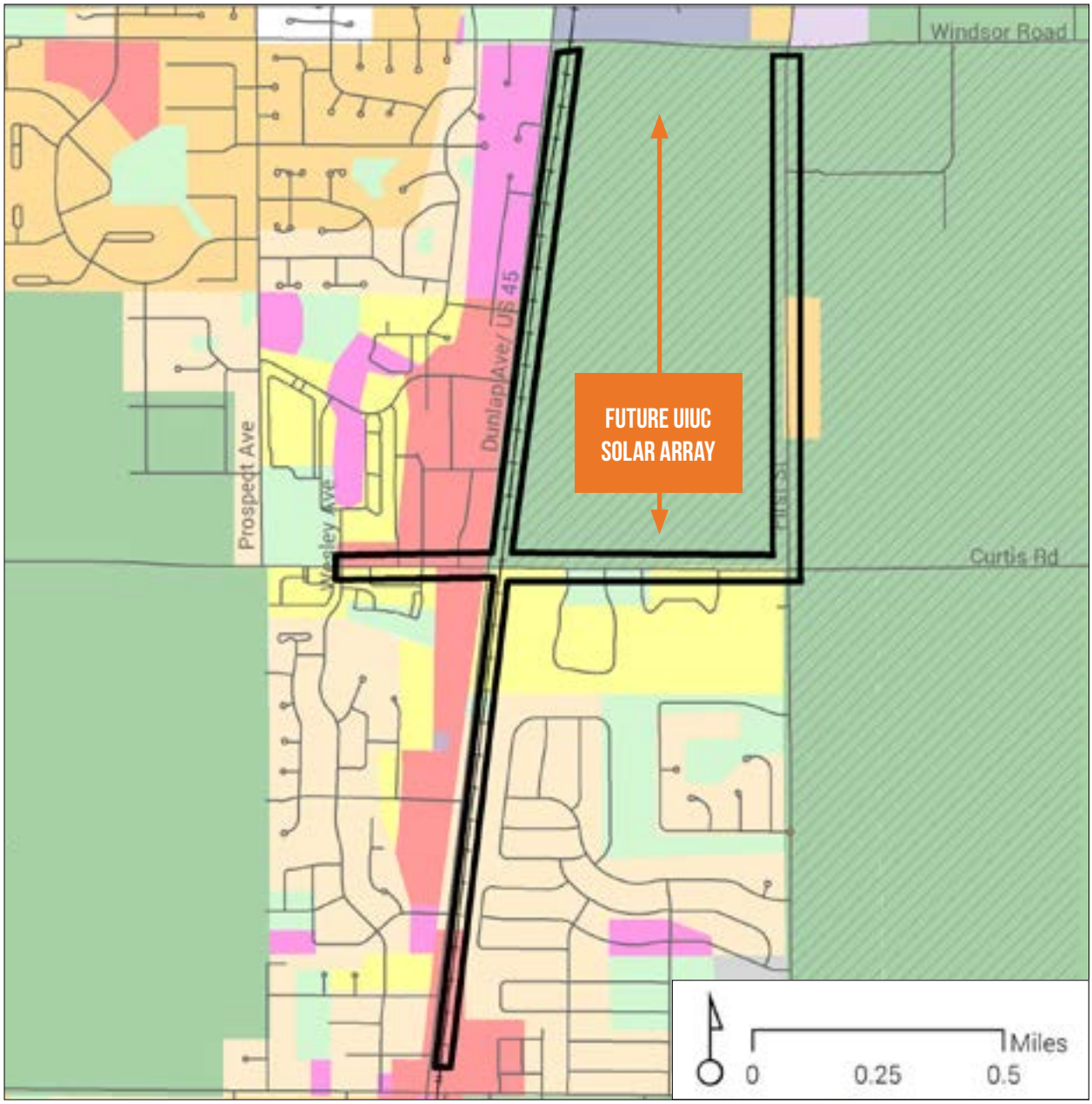
Existing Bicycle & Pedestrian Facilities

- Off-Street Shared-Use Path
- On-Street Bikeway
- Sidewalk

Transit Routes

- Green
- Yellow

- Streets
- Railroads
- Urbanized Area Boundary
- Savoy Grade Separation and Complete Streets Project



EXISTING LAND USES

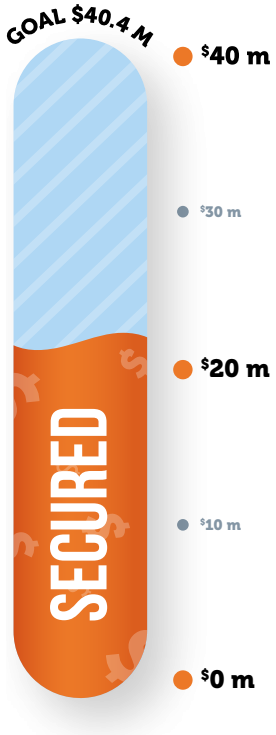
Existing Land Use Classifications

- Agriculture
- University of Illinois South Farms
- Commercial
- Office
- Low-density Residential
- Medium Density Residential
- Multi-family
- Multi-family
- Parks and Open Space
- Storm Water Detention
- Health Care
- Government Building
- UI Public Service
- Savoy Grade Separation and Complete Streets Project
- Railroads
- Streets

III. GRANT FUNDS, SOURCES + USES OF PROJECT FUNDING

	NON-FEDERAL							
	State: ICC		Local: Village of Savoy		Local: TIF District		Local: Champaign Co.	
COST CLASSIFICATION	Dollars	%	Dollars	%	Dollars	%	Dollars	%
1. Administration and Legal Expenses	$29,900	22.1%	$96,450	71.3%	$0	0.0%	$0	0.0%
2. Land, Structures, Right-of-Way	$297,700	24.5%	$915,300	75.5%	$0	0.0%	$0	0.0%
3. Relocation Expenses & Payments (Utilities)	$1,199,300	35.6%	$168,600	5.0%	$0	0.0%	$0	0.0%
4. Architectural and Engineering Fees	$923,000	28.9%	$603,400	18.9%	$0	0.0%	$0	0.0%
5. Other Architectural and Engineering Fees	$0	0.0%	$0	0.0%	$0	0.0%	$0	0.0%
6. Project Inspection Fees	$769,400	29.2%	$473,700	18.0%	$0	0.0%	$862,500	32.7%
7. Site Work	$279,500	36.8%	$19,300	2.5%	$0	0.0%	$0	0.0%
8. Demolition and Removal	$240,400	31.9%	$32,250	4.3%	$0	0.0%	$0	0.0%
9. Construction	$6,627,000	30.2%	$1,697,150	7.7%	$220,000	1.0%	$0	0.0%
10. Equipment	$61,700	5.5%	$303,000	26.9%	$0	0.0%	$0	0.0%
11. Miscellaneous	$479,500	30.0%	$80,950	5.1%	$0	0.0%	$0	0.0%
12. SUBTOTAL	**$10,907,400**	**29.7%**	**$4,390,100**	**12.0%**	**$220,000**	**0.6%**	**$862,500**	**2.3%**
13. Contingencies (10%)	$1,092,600	30.1%	$409,900	11.3%	$0	0.0%	$0	0.0%
14. SUBTOTAL	**$12,000,000**	**29.7%**	**$4,800,000**	**11.9%**	**$220,000**	**0.5%**	**$862,500**	**2.1%**
15. Project (Program) Income	$0	0.0%	$0	0.0%	$0	0.0%	$0	0.0%
16. TOTAL PROJECT COSTS (line 15 – 14)	**$12,000,000**	**29.7%**	**$4,800,000**	**11.9%**	**$220,000**	**0.5%**	**$862,500**	**2.1%**

	FEDERAL				
	BUILD		STBGP		
COST CLASSIFICATION	Dollars	%	Dollars	%	TOTAL COST
1. Administration and Legal Expenses	$0	0.0%	$8,950	6.6%	$135,300
2. Land, Structures, Right-of-Way	$0	0.0%	$0	0.0%	$1,213,000
3. Relocation Expenses & Payments (Utilities)	$2,000,000	59.4%	$0	0.0%	$3,367,900
4. Architectural and Engineering Fees	$1,669,600	52.2%	$0	0.0%	$3,196,000
5. Other Architectural and Engineering Fees	$0	0.0%	$0	0.0%	$0
6. Project Inspection Fees	$529,400	20.1%	$0	0.0%	$2,635,000
7. Site Work	$442,200	58.2%	$19,300	2.5%	$760,300
8. Demolition and Removal	$448,200	59.5%	$32,250	4.3%	$753,100
9. Construction	$12,006,600	54.7%	$1,396,450	6.4%	$21,947,200
10. Equipment	$457,800	40.7%	$303,000	26.9%	$1,125,500
11. Miscellaneous	$954,900	59.8%	$80,950	5.1%	$1,596,300
12. SUBTOTAL	**$18,508,700**	**50.4%**	**$1,840,900**	**5.0%**	**$36,729,600**
13. Contingencies (10%)	$1,949,200	53.6%	$184,100	5.1%	$3,635,800
14. SUBTOTAL	**$20,457,900**	**50.7%**	**$2,025,000**	**5.0%**	**$40,365,400**
15. Project (Program) Income	$0	0.0%	$0	0.0%	$0
16. TOTAL PROJECT COSTS (line 15 – 14)	**$20,457,900**	**50.7%**	**$2,025,000**	**5.0%**	**$40,365,400**



FY 2020 BUILD Request: $20,457,900 or *50.7% of total project cost*

IV. SELECTION CRITERIA

THE CURTIS ROAD GRADE SEPARATION + COMPLETE STREETS PROJECT will foster a safe transportation system for the movement of goods and people, improve the existingni poor conditions, increase connectivity, reduce congestion, and expand transportation choices. Primary and secondary selection criteria is summarized as follows.

CATEGORY	INVESTMENT CHANGE - IMPACTS AND BENEFITS	REFERENCE
Safety	Proposed grade separation will improve safety and reduce travel times for emergency vehicles	Page 12
State of Good Repair	Reconstructed streets brought to acceptable complete street standards requiring less maintenance while expanding mobility	Page 13
Economic Competitivness	Increasing connectivity will serve as a development asset which is a proven strategy in growing the local economy	Page 13
Environmental Sustainability	Reduced emissions and travel times lead to greater sustainability	Page 13
Quality of Life	Expansion of transportation choices and broadband deployment improves the quality of life for rural communities	Page 14

PRIMARY CRITERION #1(a): Safety

The Curtis Road Grade Separation + Complete Streets stands to improve safety, emergency response times, overall travel times, emissions, noise, transit reliability, active transportation benefits, operations costs, and improve overall mobility for residents, employees, and visitors in the Champaign-Urbana region. Nearly 75% of the projected benefits occur in the form of safety and travel time improvements.

The construction of a railroad overpass combined with improved multimodal facilities on the roadway underpass eliminates conflicts between roadway users and railroad users and yields over $7 million in safety benefits over the 20-year evaluation period.

SAFETY BENEFITS	AUTO CRASHES	TRAIN CRASHES
Fatalities Avoided	1	1
Injuries Avoided	62	1
Property Damage Avoided	154	4
20-year crash savings	$5,943,220	$1,350,227
Total 20-Year Value	**$7,293,447**	

PRIMARY CRITERION #1(b): State of Good Repair

Sustaining public infrastructure in a state of good repair is a critical component to providing essential transportation services, encouraging transportation choices and supporting livable communities. Poor pavement conditions can lead to reduced vehicular speeds, increased fuel consumption, and multimodal conflicts. In addition to creating hazards for various modes of travel, poor pavement conditions can discourage bicyclists and pedestrians from using the facility.

A recent pavement evaluation and geotechnical engineering study conducted on Curtis Road showed various traffic loading related distresses (or cracking). The typical distresses such as alligator cracking, rutting, and edge cracking were evident which are signs of poor soils, weakened pavement, inadequate drainage conditions and lack of support at the pavement edge. Anything short of reconstructing the roadway will jeopardize the safety, capacity and efficiency of the Curtis Road corridor. The Curtis Road Grade Separation + Complete Streets Project will result in an acceptable state of good repair, making it more accessible to all modes of transportation.

PRIMARY CRITERION #1(c): Economic Competitiveness

The implementation of the Curtis Road Grade Separation and Complete Streets Project supports national and regional economic competitiveness by producing nearly $8.5 million in travel time savings for people and freight traveling between I-57 and the Champaign-Urbana Urbanized Area. The vast majority of employment in the region, approximately 80% of all jobs, are concentrated on the University of Illinois campus and in the downtown districts of Champaign and Urbana. Access to these jobs as well as the services these employment locations provide, will improve for the people and freight accessing the community from Willard Airport, the I-57 interchange on Curtis Road, and residents in Savoy and southwest Champaign. See the **Champaign-Urbana Region Freight Plan**[16] for additional information.

TRAVEL TIME BENEFITS	
RR Bridge and Removal of RR Gates	$1,778,024
Intersection and Roadway	$6,644,828
Total 20-Year Value	**$8,422,852**

PRIMARY CRITERION #1(d): Environmental Sustainability

Nearly $2.8 million in enviromental benefits will result from the reduction in required fuel and supplemental services currently required to operate in the project area under current conditions and particularly when trains are present. Traffic delays caused by passing trains impact all vehicles and the implementation of the grade separation and complete streets project will result in reduced fuel costs and emissions for all vehicles. The project will reduce operation costs and human life costs for the local emergency services and transit provider who currently dispatch supplemental vehicles to minimize train-related service disruptions.

OPERATING BENEFITS	
Reduced Emissions	$71,338
Reduced Vehicle Fuel Cost	$857,919
Fire Services	$725,302
Emergency Medical Services	$757,424
Transit Operations	$99,917
Transit Riders	$195,680
Total 20-Year Value	**$2,707,580**

PRIMARY CRITERION #1(e): Quality of Life

Our region's effective use of multimodal facilities to support quality of life was highlighted in a 2014 report by Transportation For America entitled, **The Little Cities that Could: New visions bring new life to Illinois rail towns**[8]. The report notes that providing more transportation options for local residents and visitors can, among other things, help attract and support a "global" workforce. The grade separation and multimodal facilities proposed for Curtis Road and First Street can also support national and regional economic vitality by increasing physical activity and reducing motorized transportation. Adding facilities for pedestrians and bicyclists that connect to the existing pedestrian and bicycle network in the region will allow more people to move through the Curtis Road corridor while improving their health and reducing their impact on the environment and roadway infrastructure. The BCA indicates pedestrians and bicyclists along the project location would more than triple the 20-year evaluation period producing combined mobility, health, emissions, and recreational benefits of nearly $1.7 million.

ACTIVE TRANSPORTATION BENEFITS	
Mobility (walking & biking)	$988,683
Health (walking & biking)	$85,086
Fuel Emissions Reduction (mode shift)	$10,387
Additional Recreation Trips (walking & biking)	$593,923
Total 20-Year Value	**$1,678,079**

SECONDARY CRITERION #2(a): Innovation

To ensure the longevity of this significant infrastructure investment for the region, the project incorporates design features that facilitates pedestrian and bicyclist detection, expands area broadband deployment, integrates local renewable energy production, and accommodates a future high speed rail line.

- Automated pedestrian detection devices in combination with pedestrian countdown signals will be installed at the high-volume intersection of Curtis Road and US 45 to increase the safety of pedestrians and bicyclists. Local agencies have had positive feedback and results from the installation of pedestrian countdown signals in other locations throughout the urbanized area but this would be the first installation of pedestrian detection devices in the region. If successful, this is the type of technology that could result in positive changes in pedestrian behavior.
- Conduit will be installed in the project location to accommodate rapidly expanding broadband connectivity in the surrounding region. The installation of broadband conduit has been coordinated with local broadband service providers and is supported by the project partners.
- Renewable solar energy will be used to power the new street lights installed on Curtis Road. In 2018 the University of Illinois announced plans to develop a 55-acre solar farm along the north side of Curtis Road between First Street and Neil Street in the project area, making it an ideal source of power for the new adjacent roadway lighting. Solar power will reduce the project's future operating costs and reduce the project's carbon footprint. The University has agreed to power the Curtis Road lights included in this project with the new solar farm.
- Accommodations for a second, future track for high speed rail have been included in the realignment and improvements on the bridge portion of the project. While the second track accommodations will be limited to right-of-way acquisition, embankment placement, and widening of the proposed substructure, an additional three feet of separation distance

between the two tracks is included in the design so that the second track could accommodate high speed rail. A high speed rail connection from the Champaign-Urbana Urbanized Area to Chicago is included as a vision project in the **LRTP 2035**[10] and the current **LRTP 2040**[9] and a **220 MPH High Speed Rail Preliminary Feasibility Study**[11] was completed in 2013.

The Curtis Road Grade Separation + Complete Streets Project has been developed in accordance with Federal and State laws and regulations requiring identification and evaluation of the project's environmental impacts. The Illinois Department of Transportation and the Federal Highway Administration has oversight which includes environmental documentation, coordination, and general NEPA compliance procedures. ***Innovative permitting and project delivery strategies*** include contracting Phase I Preliminary Engineering services proactively with local funds.

- At the time of this application, the Village of Savoy has renewed and/or reassessed Biological and Wetland Resources, Cultural Resources, and Agricultural Resources clearances. A Preliminary Environmental Site Assessment (PESA) has also been completed. **Environmental clearances and documentation**[17] are included in the Index.
- This project has been included in the Local Public Agency Multi-Year Program and has been re-introduced at an **IDOT/FHWA bimonthly coordination meeting**[18] on March 14, 2019 whereas the Village is seeking reapproval as a Categorical Exclusion (CE).

The Village of Savoy, along with the project parties, have completed considerable progress with regards to satisfying NEPA procedures while encouraging an open process which fully involves the public. The steps taken thus far will enable a streamlined permitting process and quicker project delivery.

Innovative financing activities have been undertaken by the Village with the creation of a Tax Increment Financing district and ongoing partnership with the University of Illinois. While this project is not receiving direct financing from the University of Illinois, the mutually-beneficial collaboration with the University enhances and financially benefits the project in two different ways. First, the collaboration with the future solar farm, mentioned earlier, will reduce the project's carbon footprint and will reduce future operating expenses for roadway lighting. Second, the University is working with the Village of Savoy to install signage on the railroad bridge structure that will simultaneously enhance the streetscape and highlight the location as a gateway to the University district.

The Curtis Road Grade Separation + Complete Streets project is also located within two existing TIF Districts administered by the Village of Savoy. As part of the Marketplace at Savoy commercial subdivision on the southwest corner of Curtis and US 45, TBR ENT of Illinois, L.L.C. has entered into a bond agreement with the Village of Savoy. This agreement obligates them to contribute $220,000 toward infrastructure improvements on the section of Curtis Road adjacent to their property and is included in the overall project funding summary.

SECONDARY CRITERION #2(b): Partnership

The Village of Savoy, in close partnership with public and private parties, is 100% committed to delivering a successful project. The following demonstrates the strong collaboration between project partners.

VILLAGE OF SAVOY WWW.SAVOY.ILLINOIS.GOV

The Village of Savoy will be the project lead and grant administrator for the Curtis Road Grade Separation + Complete Streets Project. Although the Village of Savoy has a population of 8,700, it is nestled in an urbanized area of 150,000 people including two cities, the University of Illinois flagship campus, and two other villages. Savoy offers a high quality of life typically associated with small Midwestern towns, including municipal tax rates far below that of the adjacent Cities of Champaign or Urbana, acreage of prime undeveloped land, a low crime rate, quiet un-congested neighborhoods, and a responsive government. Savoy is located south of the City of Champaign and north of University of Illinois Willard Airport, making Savoy a prime location as the south entrance corridor to Champaign and the University of Illinois.

The Village of Savoy Public Works Department works to integrate safety, quality, and aesthetic appeal into both existing and future Village infrastructure. Nine full-time employees provide experience in engineering, transportation, sewers, landscaping, arboriculture, parks, fleet maintenance, and snow removal. Public Works is also responsible for Emergency Services and Disaster Agencies planning and activities. It is the intent of the department to provide timely service to residents, while maintaining exceptional professionalism.

CANADIAN NATIONAL RAILROAD WWW.CN.CA/EN

"No matter the job, what we all want most in running our railroad is to keep each other, our customers' goods and our communities safe."

Canadian National Railway (CN) owns and operates the railroad tracks that run through the Village of Savoy south to New Orleans and north to Chicago and beyond. In 1998 CN acquired this railroad from the Illinois Central Railroad Company.

CN's presence in Illinois is augmented by the CN Campus in Homewood, Illinois, one of two CN state-of-the-art railroader training centers in North America. CN's 20,000-mile network spans Canada and Mid-America, connecting three coasts: the Atlantic, the Pacific and the Gulf of Mexico. There are 24 daily trains including 6 passenger trains that traverse the CN railroad at the **Curtis Road Grade Crossing**[6].

CURRENTLY IN ILLINOIS†

7,651
highway-rail grade crossings
on state roads — 765
on local roads — 6,886

2,685
highway-rail grade-separated crossings (bridges)

3,649
grade crossings on private property*
private bridge structures — 140
*not under the jurisdiction of the state

320
pedestrian grade crossings

98
pedestrian grade-separated crossings

†as of April 2017

ILLINOIS COMMERCE COMMISSION WWW.ICC.ILLINOIS.GOV

The Illinois Commerce Commission (ICC) mission is to balance the interests of consumers and utilities to ensure adequate, efficient, reliable, safe, and least-cost public utility services. ICC has the statutory responsibility to improve safety at public highway-rail crossings in the State of Illinois. Nationally, Illinois is second only to Texas in the total number of highway-rail crossings. The Commission orders safety improvements at public highway-rail crossings with the cost of such improvements paid by the state, the railroads, and local governments. On state roads, the Illinois Department of Transportation (IDOT) pays the majority of the costs through the State Road Fund. For local roads, the Illinois General Assembly created the Grade Crossing Protection Fund (GCPF) to bear the majority of the costs of improvements.

The GCPF, appropriated to the Illinois Department of Transportation but administered by the Illinois Commerce Commission, was created by the General Assembly to assist local jurisdictions

(counties, townships and municipalities) in paying for safety improvements at highway-railroad crossings on local roads and streets. Assistance from the GCPF cannot be used for safety improvements at highway-rail crossings located on the state road or highway system. Those improvements are paid for by the Illinois Department of Transportation. The Curtis Road Grade Separation + Complete Streets project is currently included in the ICC's **FY 2020-2024 Crossing Safety Improvement Program**[7].

CHAMPAIGN COUNTY WWW.CO.CHAMPAIGN.IL.US

Champaign County has a total population of 207,946, with over 70 percent (150,599) of the total population concentrated in the Champaign-Urbana Urbanized Area. The Champaign County Highway Department bears responsibility for preparing plans, specifications, and estimates for County bridges and culverts and supervising construction of same. The Department also supervises the construction and maintenance of all Champaign County highways. In addition, the Department keeps records of contracts, purchases of materials, machinery, etc. and administers the County Motor Fuel Fund, County Bridge Fund, State & Local Bridge Fund, and Township Motor Fuel Tax Fund.

In keeping with its mission to provide and manage the best highway system within available resources and enhance the environment and economic climate of Champaign County, the Champaign County Highway Department has committed to supporting the Curtis Road Grade Separation + Complete Streets Project through an In-kind Contribution of Construction Engineering Time and Expertise. The highway department has successfully collaborated with the Village of Savoy and the City of Champaign on the improvement of two other sections of Curtis Road since before the opening of the I-57 interchange on Curtis Road in 2008. (Pictured below)

ILLINOIS DEPARTMENT OF TRANSPORTATION WWW.IDOT.ILLINOIS.GOV

The Illinois Department of Transportation (IDOT) is a state agency in charge of public roadways in Illinois. IDOT's multi-modal transportation vision encompasses many concepts that help the most rural, remote communities downstate connect with urban transportation networks. The agency strives to improve safety and quality of life for communities, reducing congestion and increasing

mobility. Given the close proximity to US Route 45, the Village of Savoy will work closely with IDOT to ensure a successful outcome.

THE UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN WWW.ILLINOIS.EDU

The University of Illinois at Urbana-Champaign community of students, scholars, and alumni is changing the world. The Urbana chancellor signed the Climate Leadership Commitments, pledging to be carbon neutral by 2050. As a part of this commitment, specific goals for energy conservation and renewable energy were outlined in the Illinois Climate Action Plan (iCAP). Efforts to meet university renewable energy goals include the Wind Power Purchase Agreement (PPA), the operation of six major solar installations, and the purchase of renewable energy certificates. The Solar Farm is one of the largest on-site university arrays in the country, according to U.S. Environmental Protection Agency statistics.

The anticipated expansion of solar will provide a unique partnership with the Village of Savoy by way of providing power to the proposed roadway lighting system along Curtis Road.

AT&T INC. WWW.ATT.COM

We're working to improve lives every day through support for our local communities. With our signature education initiative, AT&T Aspire, we committed $400 million to help provide access to the education and training people need to get and keep good jobs. And our IT CAN WAIT campaign has inspired more than 25 million pledges to never text and drive.

Our history of innovation is a story about people from all walks of life coming together to improve how we interact with the world around us. Today, we're a leader in diversity with a commitment to fostering an inclusive culture. We strive to be a great place to work and a desired business partner. We embrace our responsibility to reduce our environmental impact on the planet and are committed to helping our customers use our technology for social good.

The proposed improvements along Curtis Road will provide infrastructure that will help to implement 5G network capabilities to the area.

PAVLOV MEDIA WWW.PAVLOVMEDIA.COM

We've been building great networks since 1990. In those days, it was our founder and CEO, Mark Scifres, crawling through attics to wire houses, apartments, dorms and Greek houses. Now we're not just wiring buildings—we're constantly expanding on a national fiber optic backbone that connects hundreds of MDU communities in more than 40 states. Pavlov Media specializes in private networks designed, constructed and operated by a team of dedicated professionals from the multifamily real estate industry. Pavlov Media adds value to properties and businesses by delivering products that enhance customer satisfaction and protect assets. We've built a robust network and we're continuously finding new ways to bring our users Simply Exceptional Connections Nationwide.

The Curtis Road improvements will provide a unique opportunity to expand fiber optic services in the area and complete a critical gap in the existing private/public network.

CLARK DIETZ INC. WWW.CLARKDIETZ.COM

Clark Dietz was hired by the Village of Savoy to update the environmental clearances and cost estimates associated with the **Combined Design Study Report for Curtis Road Improvements from Duncan Road to First Street prepared by Clark Dietz in 2004**[2]. Clark Dietz provides engineering services to clients responsible for enhancing the quality of life through the built environment. Core services include consulting, design, and construction management in the disciplines of civil/environmental, transportation, and mechanical/electrical engineering. Currently, Clark Dietz is serving as the lead consultant on a TIGER funded Multi-modal Corridor Enhancement Project (MCORE) in the University District with the Champaign-Urbana Mass Transit District, the City of Champaign, the City of Urbana, and the University of Illinois. The total cost for the MCORE project is $46.9 million, which includes the $15.7 million TIGER grant plus $31.2 million in local matching funds. Clark Dietz's current involvement with the Curtis Road Grade Separation and Complete Streets Project demonstrates project readiness based on their prior involvement within the corridor and their demonstrated success with MCORE.

V. ENVIRONMENTAL RISK REVIEW

PROJECT PARTIES HAVE COLLABORATED on proposed schedule, and stand ready for implementation of a successful project. This project has the ability to be implemented within a reasonable amount of time. The Village of Savoy and its partners will use best practices while adhering to all FHWA and DOT requirements, to carry out an efficient, high quality project. The project is included as an illustrative project in the local Transportation Improvement Program (TIP) since 2001, including the current **TIP FY 2020 - 2023**[12].

PROJECT SCHEDULE

ASSUMING 9/30/2022 OBLIGATION DEADLINE

ICC Application ✓	*Jan. 2018*
ICC Programming ✓	*Mar. 2018*
Phase 1 (NEPA) Start ✓	*Jan. 2019*
BUILD Grant Submittal	May 2020
BUILD and ICC Awards	Sept. 2020
Local TIP Programming	Sept. 2020
STIP Programming	Oct. 2020
Phase 1 (NEPA) Complete	Apr. 2021
Approved Phase 1	May 2021
Phase 2 (PSE) Start	Jun. 2021
ROW Acquisition Start	Jan. 2022
Phase 2 (PSE) Complete	May. 2022
Certified ROW	Jul. 2022
Approved PSE	Jul. 2022
Obligation of BUILD Funds	Sept. 2022
IDOT Letting	Nov. 2022
Construction Begins	Jan. 2023
Bridge/Rail Complete	Dec. 2024
Roadway Complete	Dec. 2025

ENVIRONMENTAL PERMITS & REVIEWS

As previously discussed, the Curtis Road Grade Separation + Complete Streets Project has been developed in accordance with Federal and State laws and regulations regarding environmental impacts. In 2004, the **Combined Design Study Report for Curtis Road Improvements (page 19)**[2] yielded a Class of Action Determination meeting the Categorical Exclusion definition contained in 23 CFR 771.117(a). In January of 2019, the Village of Savoy contracted for Phase I Preliminary Engineering services whereas biological, wetlands, cultural, and agricultural clearances have been obtained, including **Preliminary Environmental Site Assessments**.[17] Furthermore, the project

is included the multi-year program and has been re-introduced at an IDOT/FHWA bi-monthly coordination meeting. The NEPA process is anticipated to be complete in August 2021 with the approval of the amended 2004 Phase I Project Development Report.

STATE AND LOCAL APPROVALS & PUBLIC ENGAGEMENT

State and Local Approvals and Public Input were all obtained for this project during the course of the 2004 Combined Design Study Report for Curtis Road Improvements. Since that time, the Village of Savoy and Champaign-Urbana Regional Planning Commission has included project in various local and regional planning documents. The Curtis Road Grade Separation and Complete Streets Project has received widespread support, as demonstrated in the attached letters of support, and is consistent with the following current planning documents, all of which contained a public engagement component:

Savoy Comprehensive Plan, 2019[15]
The Curtis Road Grade Separation + Complete Streets project is reflected in the goals of the 2019 update to the Village Comprehensive Plan. Savoy residents were involved in the comprehensive planning process in 2018 and 2019, including the development and approval of the plan goals. The grade separation and related pedestrian and bicycle facilities were also included in the Village's previous Comprehensive Plan in 2009.

Village of Savoy, Board of Trustees Resolution 2020R-02[13]
The Village of Savoy Board of Trustees adopted Resolution 2020R-02 on February 19, 2020. This resolution was unanimously approved in support for an application for USDOT INFRA funds and a commitment to the development of Curtis Road including the allocation of $4.8 million of local funds towards the design and construction of the project. The resolution also included the Village's commitment to forfeit or return up to 10% of the awarded funds if the project fails to meet specified deadlines. The Village of Savoy's commitments to the project have not changed since applying for INFRA as demonstrated with this FY 2020 BUILD request.

Curtis Road Corridor Study, 2017[3]
The overarching problems and opportunities defined for the corridor were based on public input, including roadway deficiencies, system linkages, and modal interrelationships, which specifically address these comments. Public input, collected during a the corridor study recently completed for the portion of Curtis Road from US 45 to IL 130, shows that pedestrians, runners, and bicyclists use Curtis Road for both access and recreation, although the majority of them report not feeling safe traveling along the corridor. More than 50 comments were received at an October 13, 2016 public meeting regarding ways to safely accommodate multiple transportation modes in the study area and 14 more were specifically about the desire for a railroad grade separation on Curtis Road. The Curtis Road Grade Separation and Complete Street Project is consistent with the public input, findings, and recommendations from the Curtis Road Corridor Study.

Curtis Road Corridor Study Appendix A[4]
Public Involvement summarizes the study's public involvement efforts and outcomes.

Savoy, IL Bike and Pedestrian Plan, 2017[14]

Public input collected regarding the bicycle and pedestrian network in the Village of Savoy included comments and recommendations for the portions of Curtis Road included in this grant proposal. The Curtis Road Grade Separation and Complete Street Project is consistent with the public input, findings, and recommendations from the Savoy Bike and Pedestrian Plan. Savoy Bike and Pedestrian Plan Chapter 6: Public Input, Appendix E: Public Workshop #1, and Appendix F: Public Workshop #2 summarize the plan's outreach efforts and outcomes.

LRTP: Sustainable Choices 2040, 2014[9]

Local residents provided comments about this portion of Curtis Road in 2013 and 2014 during the development of the Champaign-Urbana Long Range Transportation Plan (LRTP): Sustainable Choices 2040. In 2013 six LRTP comments were collected for the Curtis Road intersections at US 45 and First Street, all of which requested improvements for bike and pedestrian infrastructure and/or more bus service, when transportation network strengths and weaknesses were being collected for the entire region. In 2014 the Curtis Road Grade Separation and Complete Streets Project received 197 votes from the public when asked to select their top three priority projects in three different time frames. The Curtis Road Grade Separation and Complete Street Project is consistent with the public input, findings, and recommendations from the LRTP: Sustainable Choices 2040. Appendix A: Public Involvement summarizes the plan's public involvement efforts and outcomes.

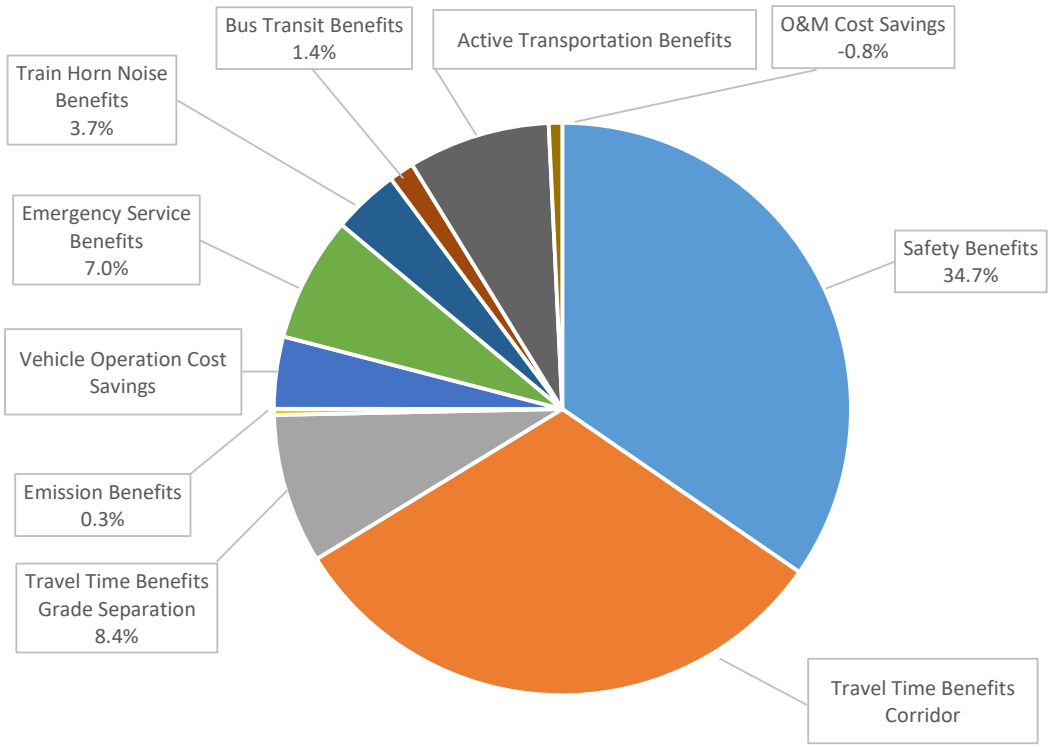
ASSESSMENT OF PROJECT RISKS & MITIGATION STRATEGIES

Extensive coordination has already occurred for this project as documented in the 2004 Combined Design Study Report for Curtis Road Improvements as well as subsequent local and regional plans listed in previous sections. Because of this, most of (if not all) of the major sources of potential delay have been identified and dealt with including utility relocations, public involvement, environmental clearances, railroad coordination, local and state agency reviews and approvals etc. The Village and project parties do not anticipate any significant procurement delays, environmental uncertainties, increases in real estate acquisition costs, uncommitted local match, or lack of legislative approval. While the project will require an updated NEPA approval, the previous coordination and documentation should represent a significant advantage when compared to other projects starting from scratch. This translates to a greater confidence that the project will be delivered on-time or ahead of schedule. The Champaign-Urbana region, the Village of Savoy, and Clark Dietz are familiar with pre-requisite steps to obligate Federal funds as demonstrated by past projects. The Village of Savoy is confident that the project schedule is reasonable and will satisfy all Federal requirements. ***If the Village of Savoy does not complete construction by December 31, 2025, the Village will forfeit or return up to 10 percent of the awarded BUILD funds.***

VI. BENEFIT COST ANALYSIS

THE COST EFFECTIVENESS ANALYSIS CONCLUDED a benefit-cost ratio of 1.03 at a 7% discount rate. This indicates that the project present value benefits are greater than the present value costs. The net present value is $0.8 million. Nearly 75% of the estimated benefits result from travel time reductions and safety improvements. The attached **Benefit Cost Analysis** documentation details additional benefits for emissions, vehicle operation costs, emergency services, noise, transit, active transportation, and improve overall mobility for residents, employees, and visitors in the Champaign-Urbana region.

NET PRESENT VALUE OF BENEFITS, 7% DISCOUNT RATE



INVESTMENT ANALYSIS

Summary Results

7% Discount Rate		3% Discount Rate	
Life-Cycle Costs (mil. $)	$23.3	Life-Cycle Costs (mil. $)	$29.2
Life-Cycle Benefits (mil. $)	$24.0	Life-Cycle Benefits (mil. $)	$50.2
Net Present Value (mil. $)	$0.8	Net Present Value (mil. $)	$21.0
Benefit/Cost Ratio	**1.03**	**Benefit/Cost Ratio**	**1.70**

[1] **2016 Champaign-Urbana-Savoy Bicycle Guide and Map**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Champaign-Urbana-Savoy_Bicycle_Guide_and_Map.jpg

[2] **Combined Design Study Report for Curtis Road Improvements, 2004**

Volume I: https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Curtis_Road_Combined_Design_Study_Volume_I_2004.pdf

Volume II: https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Curtis_Road_Combined_Design_Study_Volume_II_2004.pdf

Exhibits: https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Curtis_Road_Combined_Design_Study_Exhibits_2004.pdf

[3] **Curtis Road Corridor Study**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Savoy_Complete_Streets_Policy_Brief_2017.pdf

[4] **Curtis Road Corridor Study, Appendix A: Public Involvement, pages 89-138**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Curtis_Road_Corridor-Study_2017_Appendix_A_-_Public_Involvement.pdf

[5] **Savoy Complete Streets Policy Brief**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Savoy_Complete_Streets_Policy_Brief_2017.pdf

[6] **Curtis Road Grade Crossing Inventory**

www.icc.illinois.gov/railroad/crossing.aspx?dotId=289084Y&v=&county=C019&s=O&g=&t=PUB

[7] **Illinois Commerce Commission Crossing Safety Improvement Program, FY 2020-2024**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/ICC_Crossing_Safety_Improvement_Program_FY_2020-2024.pdf

[8] **The Little Cities that Could: New visions bring new life to Illinois rail towns**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Illinois_Rail_Report-The_Little_Cities_that_Could.pdf

[9] **LRTP 2040**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/CCRPC_Long_Range_Transportation_Plan_2040.pdf

[10] **LRTP 2035**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/CCRPC_Long_Range_Transportation_Plan_2035.pdf

[11] **220 MPH High Speed Rail Preliminary Feasibility Study, 2013, University of Illinois at Urbana Champaign, University of Illinois at Chicago**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/IDOT_HSR_220_Executive_Report.pdf

[12] **CUUATS Transportation Improvement Program (TIP), FY 2020-2023**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/CUUATS_Transportation_Improvement_Program_FY2020-2023.pdf

[13] **Village of Savoy, Board of Trustees Resolution of Support**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Savoy_Resolution_No._2020R-02.pdf

[14] **Savoy, IL Bike and Pedestrian Plan**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Savoy_Bike_and_Pedestrian_Plan_2017.pdf

[15] **Savoy Comprehensive Plan Update 2019**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Savoy_Comprehensive_Plan_2019.pdf

[16] **Champaign-Urbana Region Freight Plan**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Champaign_Urbana_Region_Freight_Plan_2019.pdf

[17] **Environmental Clearances and Documentation**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Curtis_Road_Environmental_Clearances.pdf

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/Curtis_Road_Preliminary_Environmental_Site_Assessment.pdf

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/First_Street_Pathway_Environmental_Clearances.pdf

[18] **IDOT/FHWA Bi-Monthly Coordination Meeting Minutes**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/IDOT_FHWA_Bimonthly_Meeting_Minutes_Curtis_Rd.pdf

[19] **First Street Shared Use Path Plans**

https://www.savoy.illinois.gov/vertical/sites/%7BD0463038-CAC4-4485-B59A-9F55DCAB155B%7D/uploads/First_Steet_Pathway_Prelimianry_Plans.pdf

The following attachment is not included in this view since it is not a read-only PDF file.

The agency will receive all application forms and attachments without any data loss.

AttachmentForm_1_2-ATT3-1236-SF424C_2_0-V2.0 (1).pdf

Project/Performance Site Location(s)

Project/Performance Site Primary Location

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Village of Savoy, Illinois

DUNS Number: [redacted]

* Street1: 611 N. Dunlap Avenue

Street2:

* City: Savoy

County: Champagin

* State: IL: Illinois

Province:

* Country: USA: UNITED STATES

* ZIP / Postal Code: 61874-0256

* Project/ Performance Site Congressional District: IL-013

Project/Performance Site Location 1

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name:

DUNS Number:

* Street1:

Street2:

* City:

County:

* State:

Province:

* Country: USA: UNITED STATES

* ZIP / Postal Code:

* Project/ Performance Site Congressional District:

Additional Location(s)

Add Attachment | Delete Attachment | View Attachment

CURTIS ROAD GRADE SEPARATION + COMPLETE STREETS PROJECT

Tracking Number:GRANT13108875

Funding Opportunity Number:DTOS59-20-RA-BUILD Received Date:May 18, 2020 11:42:27 AM EDT

The following attachment is not included in this view since it is not a read-only PDF file.

The agency will receive all application forms and attachments without any data loss.

AttachmentForm_1_2-ATT6-1239-Savoy BUILD Letters of Support.pdf

COMBINED DESIGN STUDY EXHIBITS

CURTIS ROAD

F.A. 807 / 7147 IMPROVEMENTS

DUNCAN ROAD to FIRST STREET

SECTION NO. 00–00374–00–ES
PROJECT NO. M–5181 (036)
JOB NO. P–95–073–00
CHAMPAIGN COUNTY

PREPARED FOR:

CUUATS

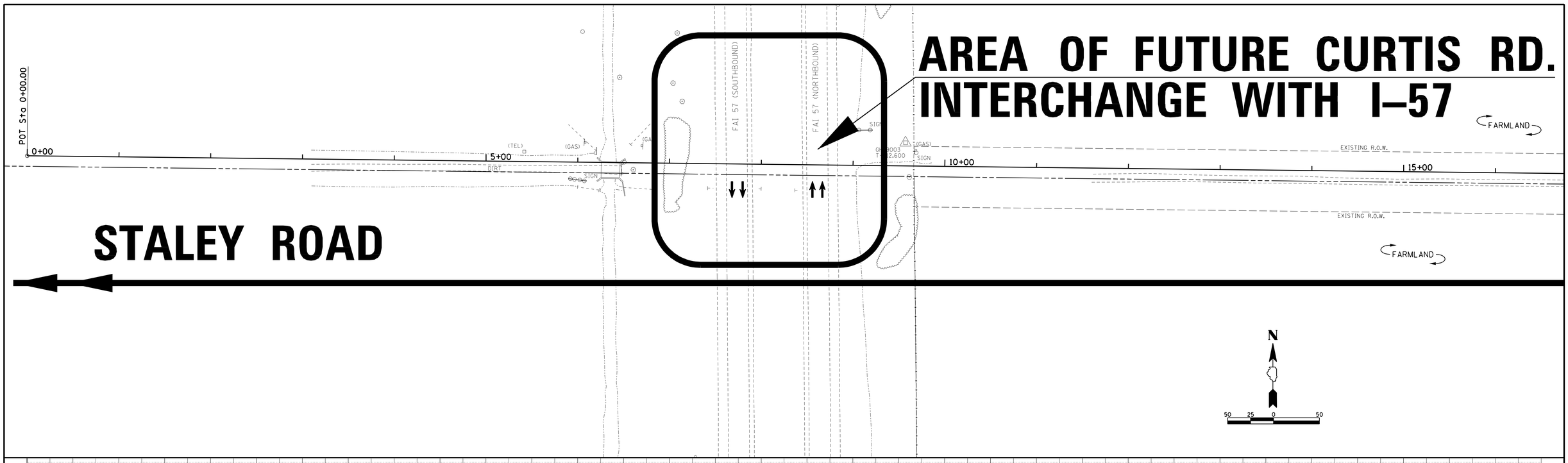
Champaign-Urbana Urbanized Area Transportation Study
A Program of the Champaign County Regional Planning Commission

PREPARED BY:

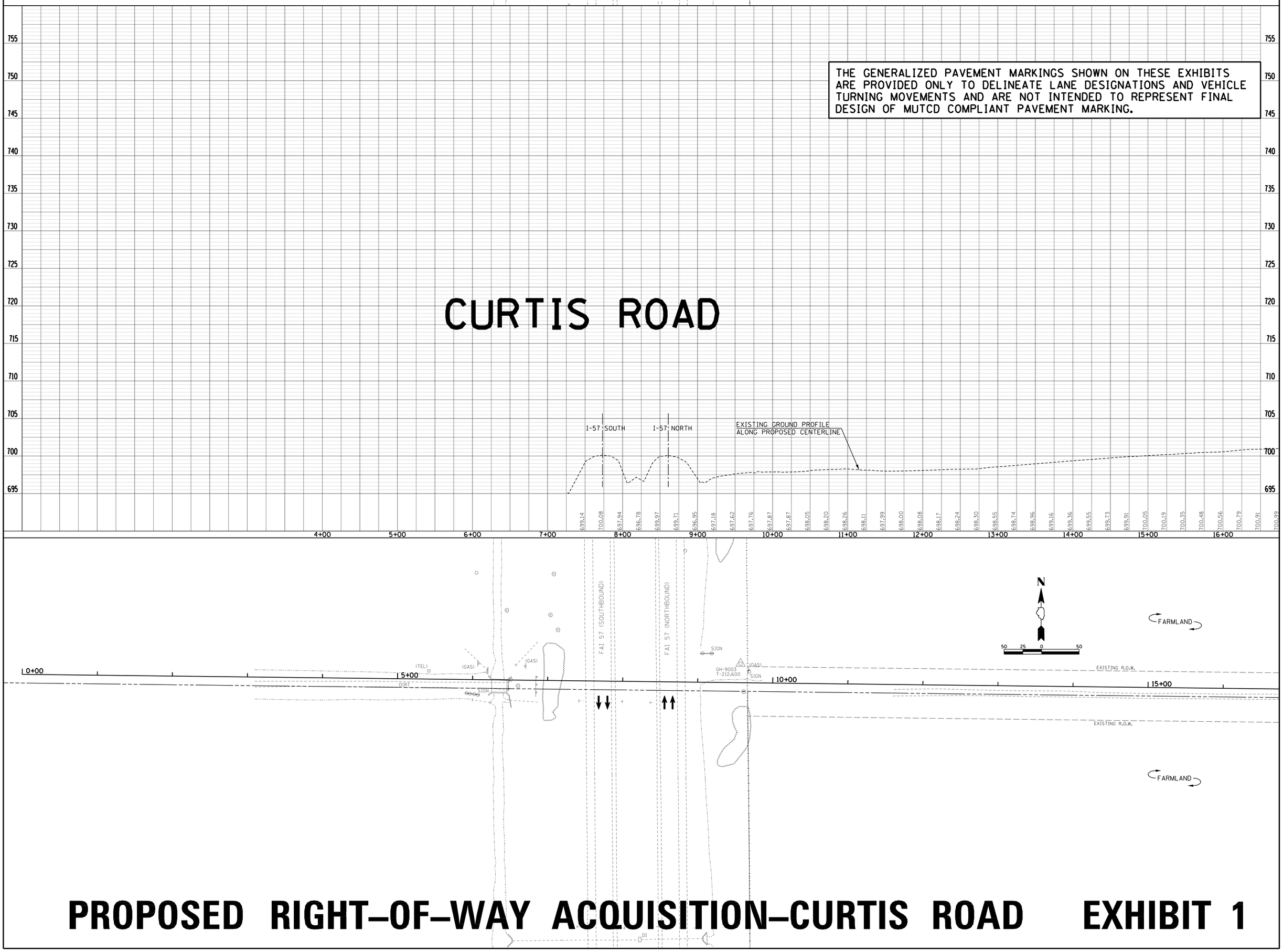
Clark Dietz

APRIL 2004

DESIGN EXHIBITS

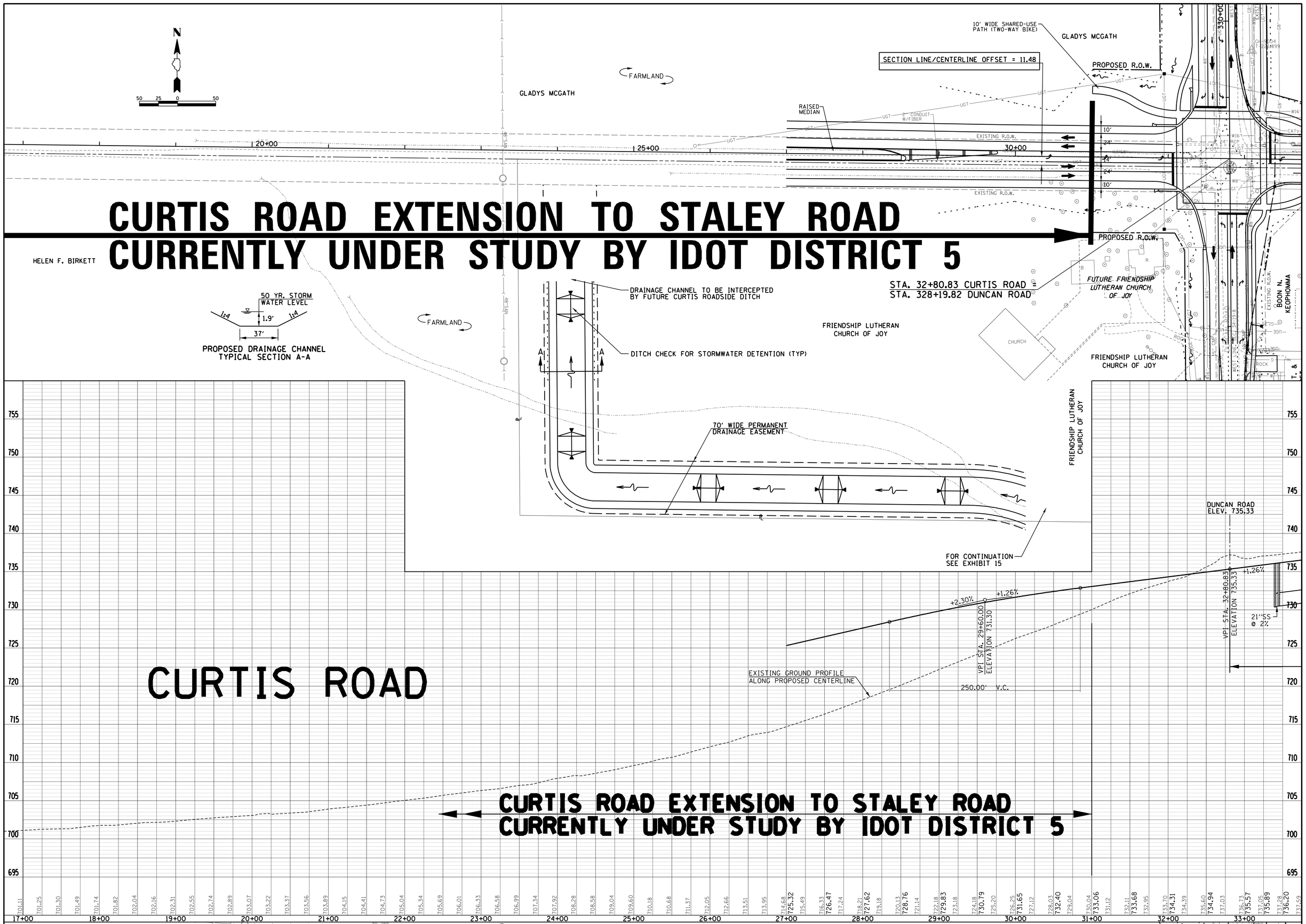


THE GENERALIZED PAVEMENT MARKINGS SHOWN ON THESE EXHIBITS ARE PROVIDED ONLY TO DELINEATE LANE DESIGNATIONS AND VEHICLE TURNING MOVEMENTS AND ARE NOT INTENDED TO REPRESENT FINAL DESIGN OF MUTCD COMPLIANT PAVEMENT MARKING.



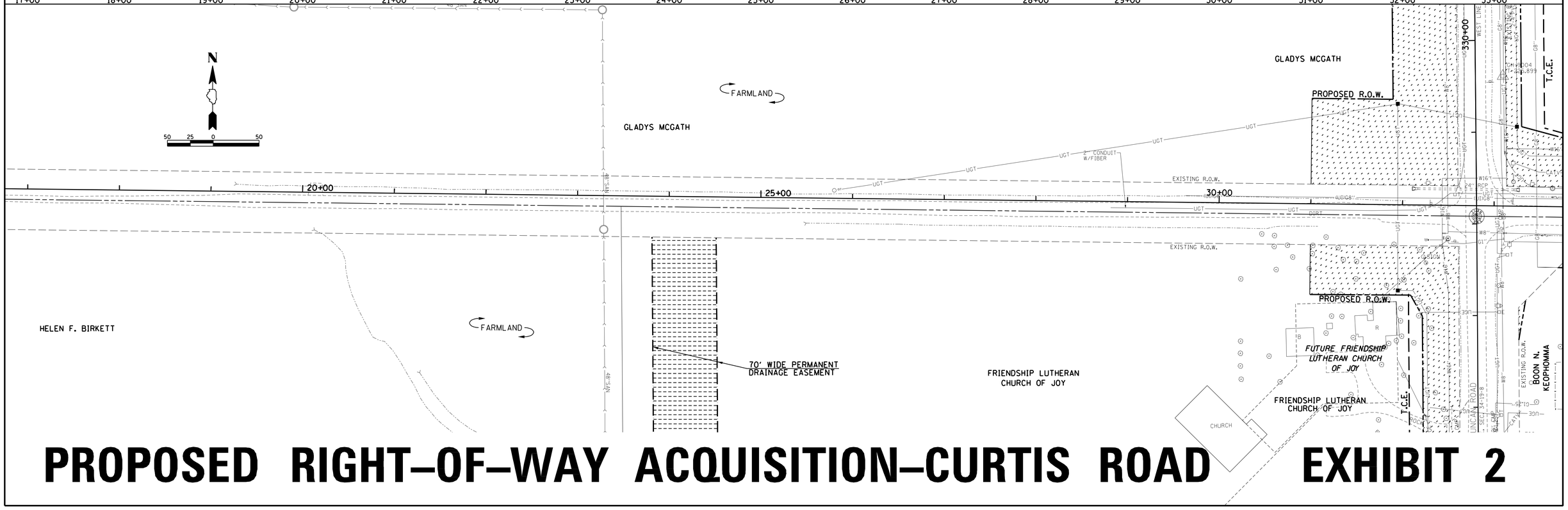
PROPOSED RIGHT–OF–WAY ACQUISITION–CURTIS ROAD EXHIBIT 1

CURTIS ROAD EXTENSION TO STALEY ROAD
CURRENTLY UNDER STUDY BY IDOT DISTRICT 5

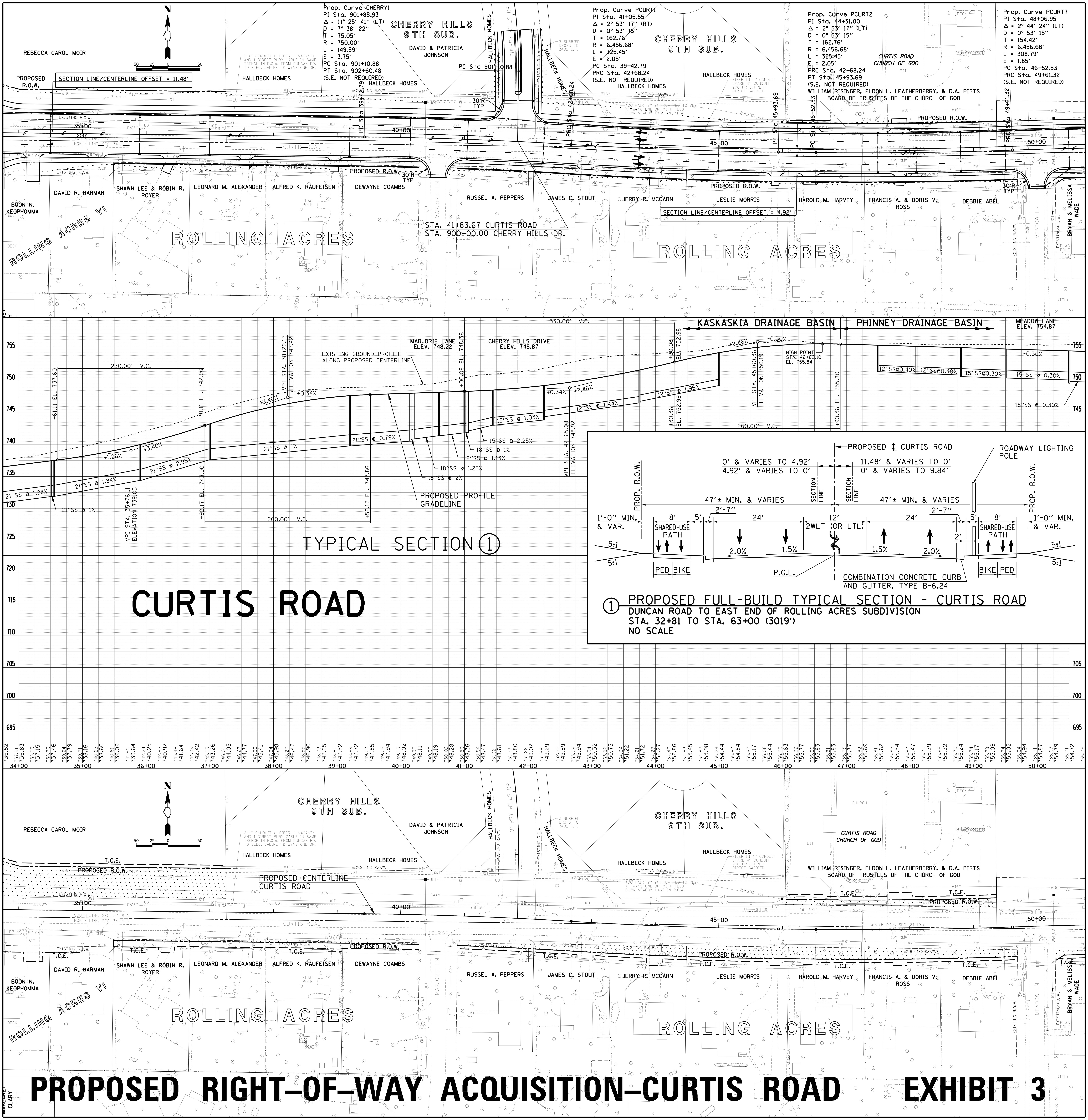


CURTIS ROAD

CURTIS ROAD EXTENSION TO STALEY ROAD
CURRENTLY UNDER STUDY BY IDOT DISTRICT 5

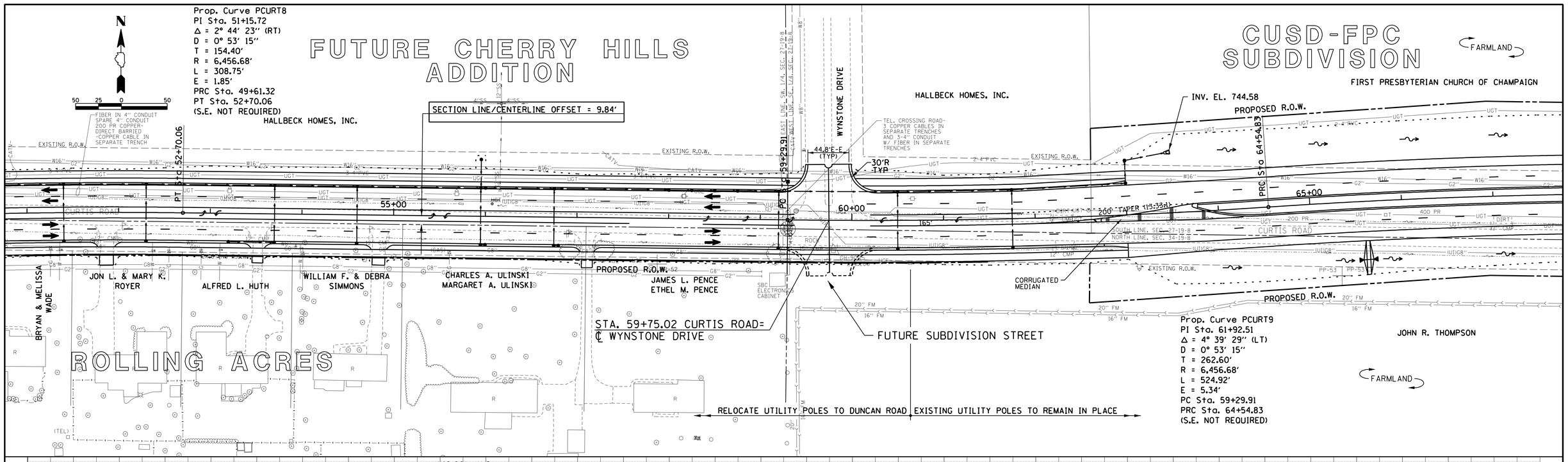


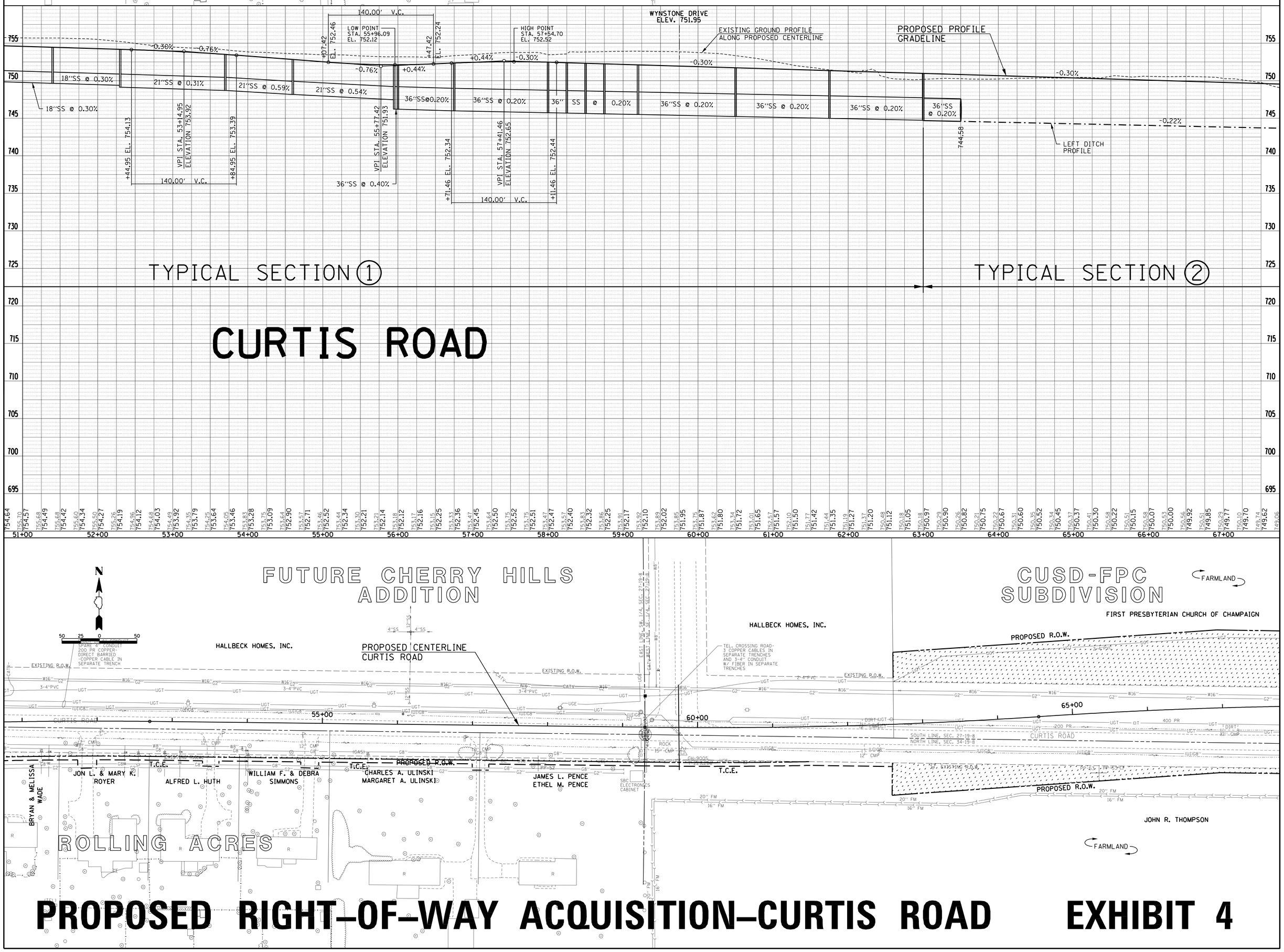
PROPOSED RIGHT-OF-WAY ACQUISITION-CURTIS ROAD EXHIBIT 2



PROPOSED RIGHT–OF–WAY ACQUISITION–CURTIS ROAD EXHIBIT 3

Tracking Number:GRANT13108875 Funding Opportunity Number:DTOS59-20-RA-BUILD Received Date:May 18, 2020 11:42:27 AM EDT





CUSD-FPC SUBDIVISION

TEMPORARY ACCESS DRIVE TO BARKSTALL SCHOOL

FIRST PRESBYTERIAN CHURCH OF CHAMPAIGN

DITCH CHECK FOR STORMWATER DETENTION
3'x2' BOX CULVERT - 70' LONG
U.S.F.L. ELEV. = 742.77
D.S.F.L. ELEV. = 742.53

PROPOSED R.O.W.

SECTION LINE/CENTERLINE OFFSET = 52.49'

FARMLAND

FIRST BUSEY TRUST & INVESTMENT CO.
TRUSTEE OF THE OPAL GILLILAND TRUST

N

50 25 0 50

PT Sta 69+79.75

EXISTING R.O.W.

70+00

75+00

80+00

30'R TYP

200' TAPER (16.67:1)

165'

SOUTH LINE, SEC. 27-19-8
NORTH LINE, SEC. 34-19-8

CURTIS ROAD

EXISTING R.O.W.

PROPOSED R.O.W.

Prop. Curve PCURT10
PI Sta. 67+17.43
Δ = 4° 39' 29" (RT)
D = 0° 53' 15"
T = 262.61'
R = 6,456.68'
L = 524.92'
E = 5.34'
PRC Sta. 64+54.83
PT Sta. 69+79.75
(S.E. NOT REQUIRED)

JOHN R. THOMPSON

DITCH CHECK FOR STORMWATER DETENTION
6'x2' BOX CULVERT - 33' LONG
U.S.F.L. ELEV. = 741.96
D.S.F.L. ELEV. = 741.63

JOHN R. THOMPSON

FARMLAND

TEMPORARY ACCESS DRIVE
ELEV. 748.00

VPI STA. 68+89.75
ELEVATION 749.20

-0.30%

-0.36%

+89.75 EL. 749.50

+89.75 EL. 748.84

200.00' V.C.

-0.22%

LEFT DITCH PROFILE

742.77

742.53

EXISTING GROUND PROFILE
ALONG PROPOSED CENTERLINE

PROPOSED PROFILE
GRADELINE

-0.36%

743.50

-1.07%

-0.34%

RIGHT DITCH PROFILE

741.96

741.63

RIGHT DITCH PROFILE

LEFT DITCH PROFILE

-0.36%

-0.33%

-0.34%

VPI Sta. 84+00.00
Elevation 738.96

-1.92%

-2.19%

VPI Sta. 84+00.00
Elevation 738.69

755 750 745 740 735 730 725 720 715 710 705 700 695

749.55 748.48 749.47 747.92 749.40 747.48 749.32 747.11 749.24 746.92 749.16 746.91 749.07 747.02 748.99 747.20 748.90 747.42 748.81 747.37 748.72 747.28 748.63 747.24 748.54 747.20 748.45 747.19 748.36 747.31 748.27 747.49 748.18 747.85 748.09 748.61 748.00 748.11 747.91 747.37 747.82 747.11 747.73 746.91 747.64 746.58 747.55 746.38 747.46 746.19 747.37 746.14 747.28 746.16 747.19 746.28 747.10 746.42 747.01 746.54 746.92 746.56 746.83 746.38 746.74 746.02 746.65 745.89 746.56 745.78 746.47 745.55 746.38 745.34 746.29 745.11 746.20 744.93 746.11 745.04 746.02 745.26 745.93 745.62 745.84 745.84 745.75 746.04 745.66 746.12 745.57 745.97 745.48 745.76 745.39 745.41 745.30 745.22 745.21 745.05 745.12 745.03 745.03 744.94 744.94 744.80 744.85 744.69 744.76 744.54 744.67 744.30 744.58 744.17 744.49 744.03 744.40 743.89 744.31 743.76 744.22 743.60 744.13 743.35 744.04 743.16 743.95 743.06 743.86 742.88 743.77 742.66 743.68 743.59 742.41

68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00 84+00

TYPICAL SECTION ②

CURTIS ROAD

PROPOSED ℄ CURTIS ROAD

0' & VARIES TO 8.85'

9.84' & VARIES TO 52.49'
52.49' & VARIES TO 21.65'
21.65' & VARIES TO 0'

PROP. R.O.W.

5' FUTURE SIDEWALK

10' PAVED SHLDR. WITH 5' ONE WAY BIKE LANE

SECTION LINE

SECTION LINE

10' PAVED SHLDR. WITH 5' ONE WAY BIKE LANE

5' FUTURE SIDEWALK

EXIST./PROP. R.O.W.

85'± MIN. & VARIES

85'± MIN. & VARIES

2' MIN. & VAR.

PED

4' 9' 4' 18' 24' 18' 24' 18' 4' 9' 4'

PED

2' MIN. & VAR.

3' MIN.

3' MIN.

20' CLEARZONE

20' CLEARZONE

RAISED MEDIAN (OR LTL)

4.0% 2.0% 1.5% P.G.L.

1.5% 2.0% 4.0% P.G.L.

BIKE

COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12

BIKE

STANDARD DITCH

3:1 6:1 4:1 3:1

3:1 6:1 4:1 3:1

STANDARD DITCH

SPECIAL DITCH

SPECIAL DITCH

② PROPOSED FULL-BUILD TYPICAL SECTION - CURTIS ROAD
EAST END OF ROLLING ACRES TO PROSPECT AVE.
STA. 63+00 TO STA. 138+47 (7547')
NO SCALE

CUSD-FPC SUBDIVISION

FIRST PRESBYTERIAN CHURCH OF CHAMPAIGN

FARMLAND

PROPOSED CENTERLINE
CURTIS ROAD

FIRST BUSEY TRUST & INVESTMENT CO.
TRUSTEE OF THE OPAL GILLILAND TRUST

PROPOSED R.O.W.

N

50 25 0 50

EXISTING R.O.W.

70+00

75+00

80+00

WETLAND

SOUTH LINE, SEC. 27-19-8
NORTH LINE, SEC. 34-19-8

CURTIS ROAD

EXISTING R.O.W.

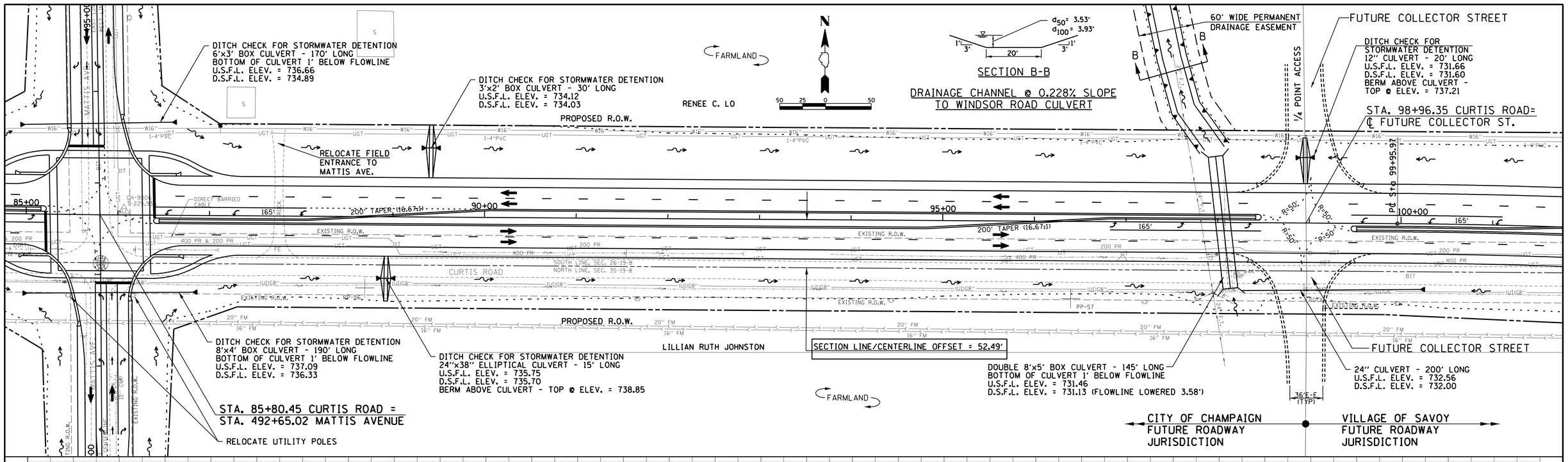
PROPOSED R.O.W.

JOHN R. THOMPSON

JOHN R. THOMPSON

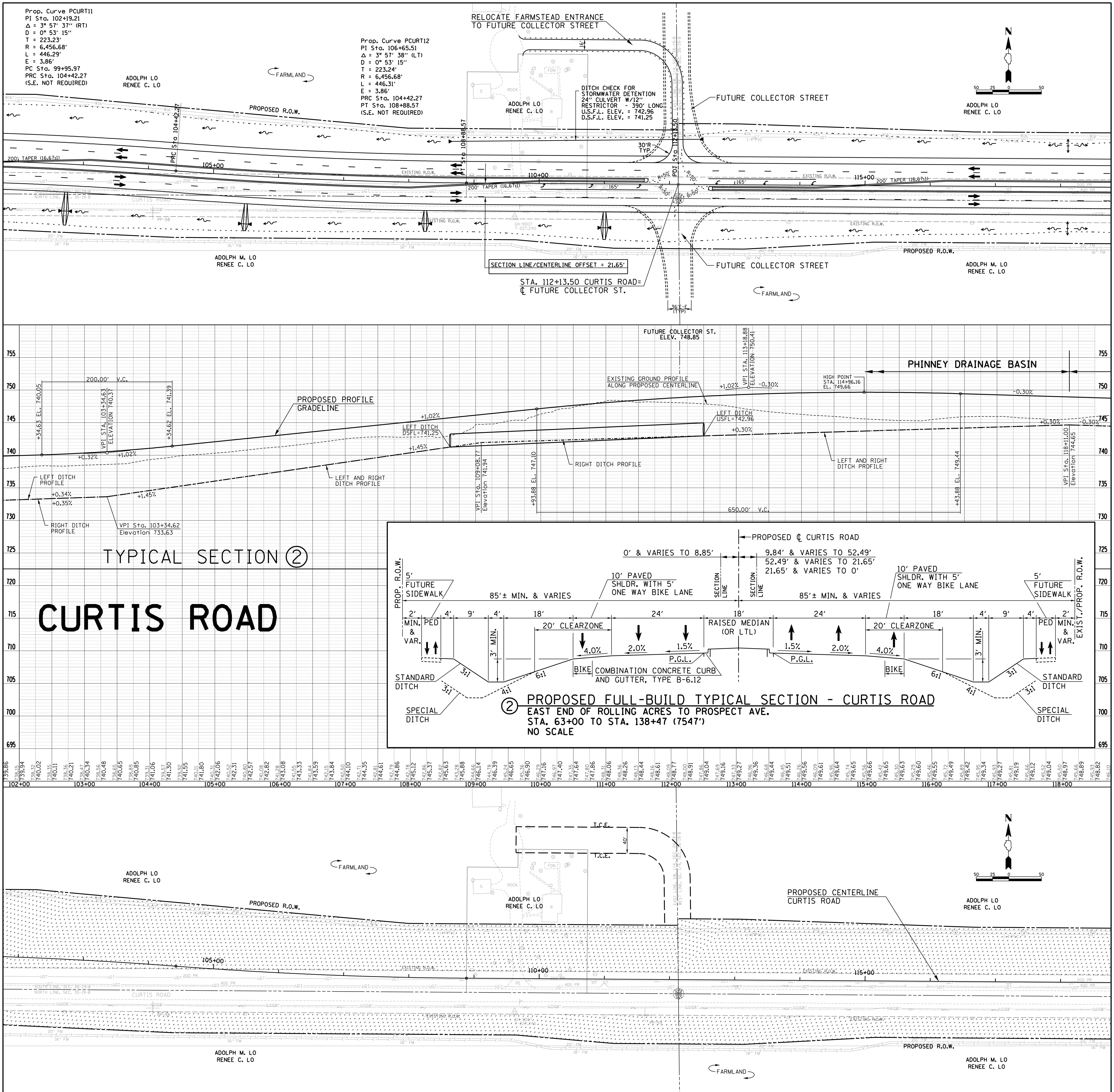
FARMLAND

PROPOSED RIGHT-OF-WAY ACQUISITION-CURTIS ROAD EXHIBIT 5

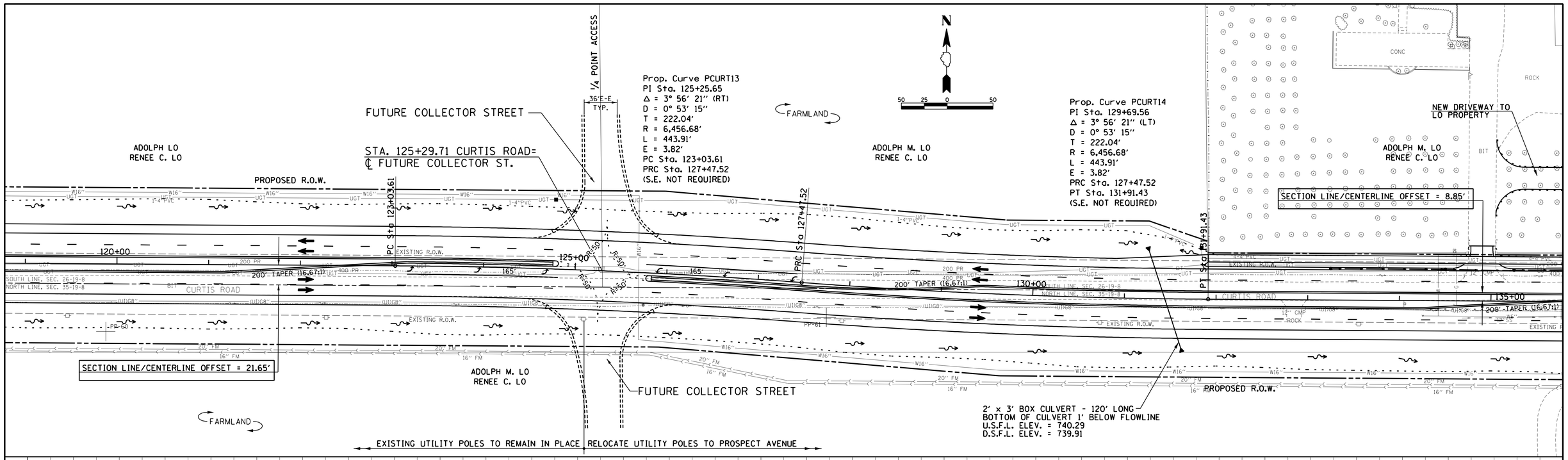


PROPOSED RIGHT–OF–WAY ACQUISITION–CURTIS ROAD

EXHIBIT 6



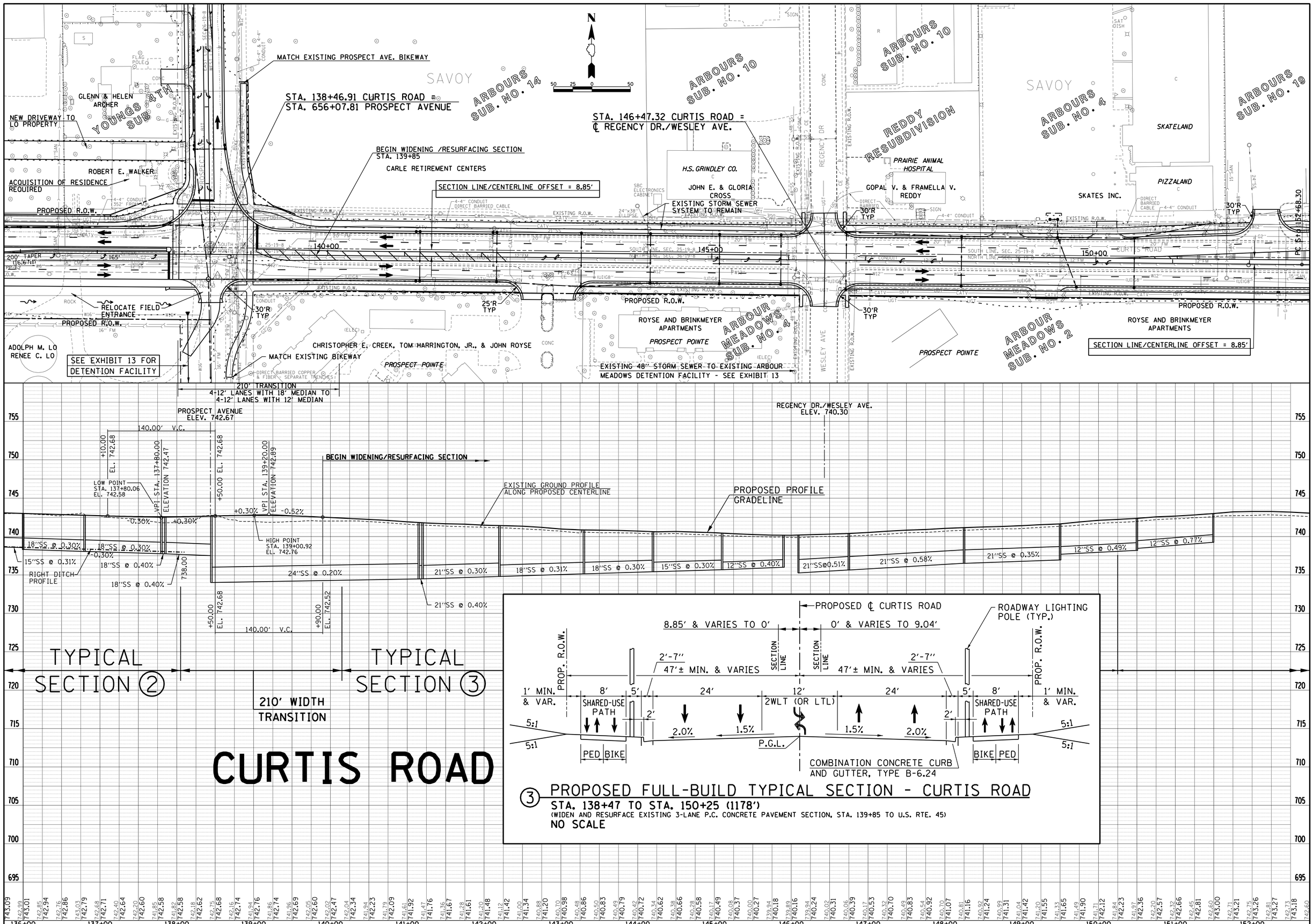
PROPOSED RIGHT–OF–WAY ACQUISITION–CURTIS ROAD EXHIBIT 7



TYPICAL SECTION ②

CURTIS ROAD

PROPOSED RIGHT–OF–WAY ACQUISITION–CURTIS ROAD EXHIBIT 8



PROPOSED RIGHT-OF-WAY ACQUISITION-CURTIS ROAD EXHIBIT 9

CURTIS ROAD

PROPOSED RIGHT-OF-WAY ACQUISITION-CURTIS ROAD EXHIBIT 10

ARBOURS DEVELOPMENT

Prop. Curve PCURT16
PI Sta. 157+78.60
Δ = 3° 01′ 06″ (RT)
D = 0° 53′ 15″
T = 170.11′
R = 6,456.68′
L = 340.14′
E = 2.24′
PRC Sta. 156+08.49
PT Sta. 159+48.63
(S.E. NOT REQUIRED)

STA. 158+22.95 CURTIS ROAD = ℄ WOODFIELD ALLEY

Prop. Curve PCURT15
PI Sta. 154+38.44
Δ = 3° 01′ 08″ (LT)
D = 0° 53′ 15″
T = 170.13′
R = 6,456.68′
L = 340.19′
E = 2.24′
PC Sta. 152+68.30
PRC Sta. 156+08.49
(S.E. NOT REQUIRED)

ARBOURS SUB. NO. 19

BANKILLINOIS TRUST COMPANY
TRUST NO. 030-101-000

SAVOY

WOODFIELD ALLEY

CN/IC RAILROAD

U.S. RTE. 45

PAVEMENT CROSS SLOPE CORRECTION
MILL 3″± AND RESURFACE 1½″±

PAVEMENT CROSS SLOPE CORRECTION
VARIABLE DEPTH RESURFACING

SECTION LINE/CENTERLINE OFFSET = 9.04′

EDGE OF SIDEWALK-BACK OF CURB

COLUMN LINE

PAGES FOR ALL AGES

FACE OF BUILDING

30′R TYP

3′ MAX. HIGH AND VARIES RETAINING WALL

2-CENTERED CURVE R=65′-145′ O=14.5°

RELOCATE EXISTING AREA INLET

45′R

PROPOSED R.O.W.

35:1 TAPER (700.0′)

53.3:1 TAPER (479.3′)

16.4:1 TAPER (196.8′)

TAKE OFF POINT FOR PROPOSED SUBWAY PROFILE EL. 739.29

PERMANENT MAINTENANCE EASEMENT

STA. 12339+00
BEGIN EMBANKMENT WIDTH FOR SINGLE MAINLINE TRACK PLUS SIDING TRACK
SEE EXHIBITS 20-26

FARMLAND

THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS

200′ TAPER (16.67′)

45:1 TAPER (450′)

200′ TAPER (20:1)

CURTIS ROAD

24″ CULVERT
175′ LONG

TAKE OFF POINT FOR PROPOSED SUBWAY PROFILE EL. 739.21

PERMANENT MAINTENANCE EASEMENT

JOHN PORTER GARTH
VIRGINIA REYNOLDS GARTH

LA SALLE NATIONAL BANK

WINFIELD VILLAGE COOPERATIVE

STA. 163+11.90 CURTIS ROAD = STA. 12337+19.24 I.C.R.R.

PROSPECT POINTE

ARBOUR MEADOWS SUB. NO. 2

JOSEPH C. HALLBECK
HELEN M. HALLBECK

D & M PROPERTIES
RELIABLE MECHANICAL CONTRACTING CO.

EXISTING 60″ STORM SEWER TO EXISTING ARBOUR MEADOWS DETENTION FACILITY

CLOSE EAST ENTRANCE-DEVELOP 24′ WIDE WEST ENTRANCE

THE FEDERATION OF ANIMAL SCIENCE SOCIETIES

STA. 161+26.11 CURTIS ROAD = STA. 820+29.94 US RTE. 45

RECONSTRUCT EXISTING RIGHT TURN LANE

℄ EXIST. I.C.R.R. — 60′ — ℄ PROP. I.C.R.R.

EMBANKMENT WIDTH REQUIRED FOR SINGLE MAINLINE TRACK SEE EXHIBITS 20-26

RELOCATED GARTH ENTRANCE

14′-11″ MINIMUM VERTICAL CLEARANCE LOW STEEL TO PROPOSED P.G.L.

THE PROPOSED PROFILE INFORMATION IN *ITALICS* REFERS TO THE PROPOSED PROFILE GRADELINE 17′ LT. OF ℄ & VARIES.

PROPOSED PROFILE GRADELINE AT ℄

WOODFIELD ALLEY ELEV. 739.32

U.S. RTE. 45 ELEV. 739.67

VPI STA. 158+60.00 ELEVATION 739.18

140.00′ V.C.

+35.00 EL. 738.95

VPI STA. 160+05.00 ELEVATION 738.74

+75.00 EL. 739.32

LOW POINT STA. 159+72.50 EL. 738.90

-0.30% +0.82% -0.30% +0.78%

LOW POINT STA. 159+74.17 EL. 738.89

VPI STA. 161+28.00 ELEVATION 739.75

+57.50 EL. 739.37

VPI STA. 161+25.33 ELEVATION 739.68

+57.50 EL. 739.20

135.00′ V.C.

VPI STA. 162+25.00 ELEVATION 738.30

+92.50 EL. 736.66

VPI STA. 162+25.00 ELEVATION 738.18

+92.50 EL. 736.57

PROPOSED W.B. PROFILE GRADELINE 17′ LT. OF ℄ & VARIES

400.00′ V.C.

VPI STA. 165+20.00 ELEVATION 731.14

+20.00 EL. 735.99

+20.00 EL. 732.66

EXISTING GROUND PROFILE ALONG PROPOSED CENTERLINE

LOW POINT STA. 166+24.69 EL. 732.29

PROPOSED PROFILE GRADELINE AT ℄

+20.00 EL. 733.41

VPI STA. 169+00.00 ELEVATION 734.02

+0.76% -1.00%

LOW POINT STA. 166+23.59 EL. 732.29

HIGH POINT STA. 168+88.98 EL. 733.68

PROPOSED E.B. PROFILE GRADELINE 7′ RT. OF ℄

-1.50% -2.43% -2.39% +0.76%

12″SS @ 1.90%

15″SS @ 1.72%

18″SS @ 0.50%

21″SS @ 0.50%

24″SS @ 0.50%

12″SS @ 0.62%

160.00′ V.C.

36″SS @ 0.40%

48″SS @ 0.30%

36″SS @ 0.30%

30″SS @ 0.30%

12″SS @ 0.40%

12″SS

36″SS @ 0.31%

4a PROPOSED TYPICAL SECTION - CURTIS ROAD

STA. 150+25 TO STA. 161+26 (1101′) (LOOKING EAST)
(WIDEN AND RESURFACE EXISTING 3-LANE P.C. CONCRETE PAVEMENT SECTION, STA. 139+85 TO U.S. RTE. 45)
NO SCALE

PROPOSED ℄ CURTIS ROAD — 9.04′ MAX. & VARIES

79′ MAX. & VARIES — 25.3′ MAX. & VARIES — 6′ MAX. & VARIES — 47′ MAX. & VARIES

PROP. R.O.W. — 1′ MIN. & VAR. — 8′ SHARED-USE PATH (PED, BIKE) — 3′ MIN. & VAR. — 2′-7″ — 12′ W.B. — 12′ W.B. — 2′ — 5:1 — 2% & VAR. — 1.5% & VAR. — C.&G. TY. B-6.24 — PGL

SEE CURTIS RD./U.S. RTE 45 IDS (EXHIBIT 33) FOR MEDIAN AND LTL DETAILS

SECTION LINE — 12′ E.B. 1.5% & VAR. — 12′ E.B. 2% & VAR. — 2′ — 3′ MIN. & VAR. — 8′ SHARED-USE PATH (BIKE, PED) — 1′ MIN. & VAR. — PROP. R.O.W. — 5:1

ROADWAY LIGHTING POLE (TYP.)

TYPICAL SECTION 4a

4b PROPOSED TYPICAL SECTION - CURTIS ROAD

STA. 161+26 TO STA. 169+00 (774′) (LOOKING EAST)
NO SCALE

PROPOSED ℄ CURTIS ROAD — 9.04′

68′ MAX. & VARIES — 17′ MAX. — 5′ MIN. — 7′ — 55′ MAX. & VARIES

PROP. R.O.W. — 1′ MIN. & VAR. — 8′ SHARED-USE PATH (PED, BIKE) — 3′ MIN. & VAR. — 2′-7″ — 12′ MAX. & VAR. W.B. 2% — 12′ W.B. 1.5% — 12′ MAX. & VAR. TO 0′ — 1.5% & VARIES — 12′ & VAR. TO 24′ — PGL — 2′-7″ — 12′ — 12′ MAX. & VAR. E.B. 2% — 0′ & VAR. TO 10′ MAX. — 2′ — 2% — 3′ MIN. & VAR. — 8′ SHARED-USE PATH (BIKE, PED) — 1′ MIN. & VAR. — PROP. R.O.W. — 5:1

SECTION LINE — E.B. 1.5% — C.&G. TY. B-6.24

ROADWAY LIGHTING POLE (TYP.)

TYPICAL SECTION 4b

743.05 742.45 742.84 742.10 742.52 741.68 742.06 741.24 741.65 740.91 741.31 740.63 741.01 740.28 740.57 739.89 740.22 739.68 739.97 739.43 739.70 739.23 739.47 739.08 739.33 738.98 739.23 738.76 739.16 739.41 739.22 739.45 738.72 739.52 739.49 739.61 739.42 739.49 739.15 739.49 738.90 739.44 738.99 738.90 739.39 738.87 739.31 738.91 739.22 738.80 739.13 738.77 739.06 738.98 738.70 738.92 738.70 738.92 738.63 738.89 738.51 738.92 738.44 738.99 738.61 739.12 739.14 738.95 739.29 739.32 739.27 739.48 739.52 739.68 739.69 739.41 739.31 739.42 739.53 738.92 739.04 740.13 738.50 738.61 738.03 738.14 741.13 737.52 737.63 741.64 737.47 736.98 737.07 740.96 736.39 736.48 740.50 735.79 735.87 739.32 735.23 735.30 739.12 734.72 734.78 738.15 734.26 734.31 737.31 733.84 733.88 736.55 733.47 733.51 735.83 733.16 733.19 734.86 732.89 732.91 734.66 732.67 732.69 734.56 732.50 732.52 732.38 732.39 734.48 732.31 732.32 734.37 732.29 732.32 734.26 732.32 732.32 734.14 732.39 732.40 734.03 732.52 732.52 733.93 732.63 732.69 733.85 732.88 733.84 733.07 733.84 733.07 733.79 733.26 733.77 733.45 733.78 733.59 733.63 733.67 733.51 733.60 733.53 733.47 733.54

153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00

755 750 745 740 735 730 725 720 715 710 705 700 695

ARBOURS DEVELOPMENT

ARBOURS SUB. NO. 19

BANKILLINOIS TRUST COMPANY
TRUST NO. 030-101-000

SAVOY

WOODFIELD ALLEY

CN/IC RAILROAD

U.S. RTE. 45

R.O.W. ACQUISITION ALONG U.S. RTE 45 MUST BE PURCHASED IN THE NAME OF THE STATE.

PERMANENT MAINTENANCE EASEMENT

T.C.E.

PAGES FOR ALL AGES

PROPOSED R.O.W.

EXISTING R.O.W.

PROPOSED CENTERLINE CURTIS ROAD

FARMLAND

THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS

ILLINOIS POWER

CURTIS ROAD

24′ CULVERT

PROSPECT POINTE

ARBOUR MEADOWS SUB. NO. 2

JOSEPH C. HALLBECK
HELEN M. HALLBECK

D & M PROPERTIES
RELIABLE MECHANICAL CONTRACTING CO.

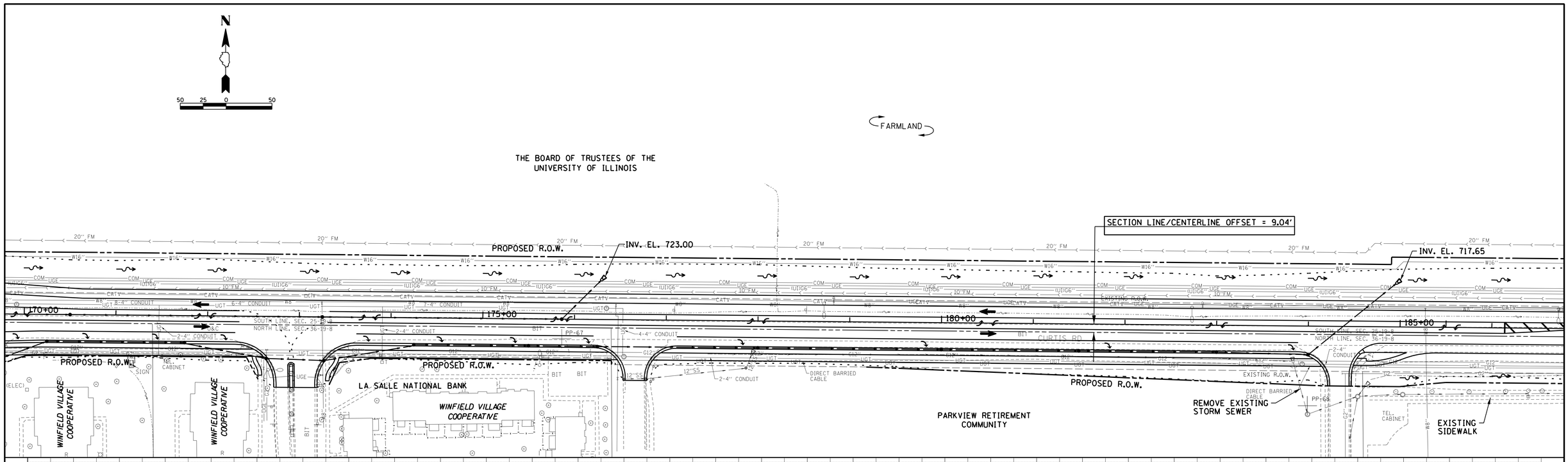
THE FEDERATION OF ANIMAL SCIENCE SOCIETIES

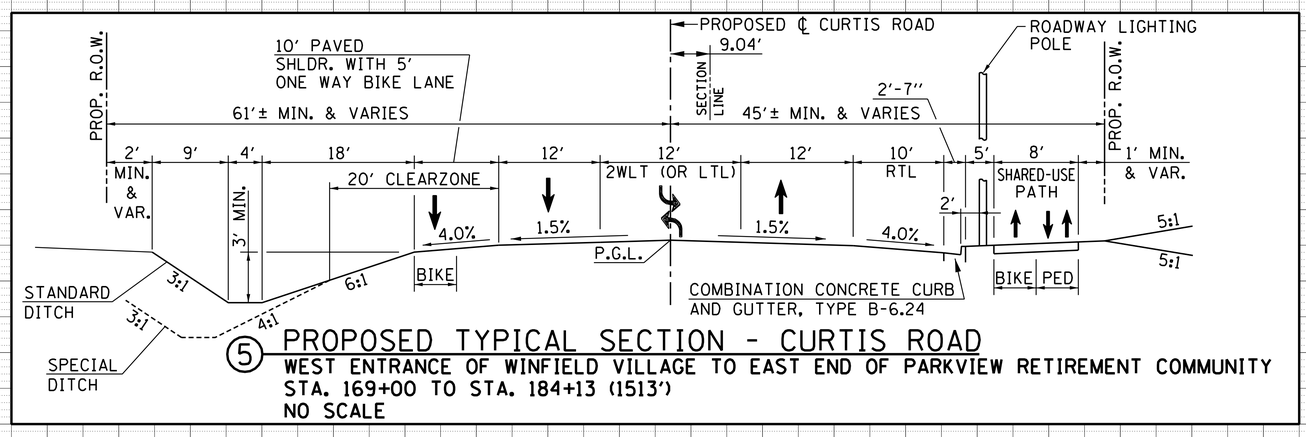
JOHN PORTER GARTH
VIRGINIA REYNOLDS GARTH

LA SALLE NATIONAL BANK

WINFIELD VILLAGE COOPERATIVE

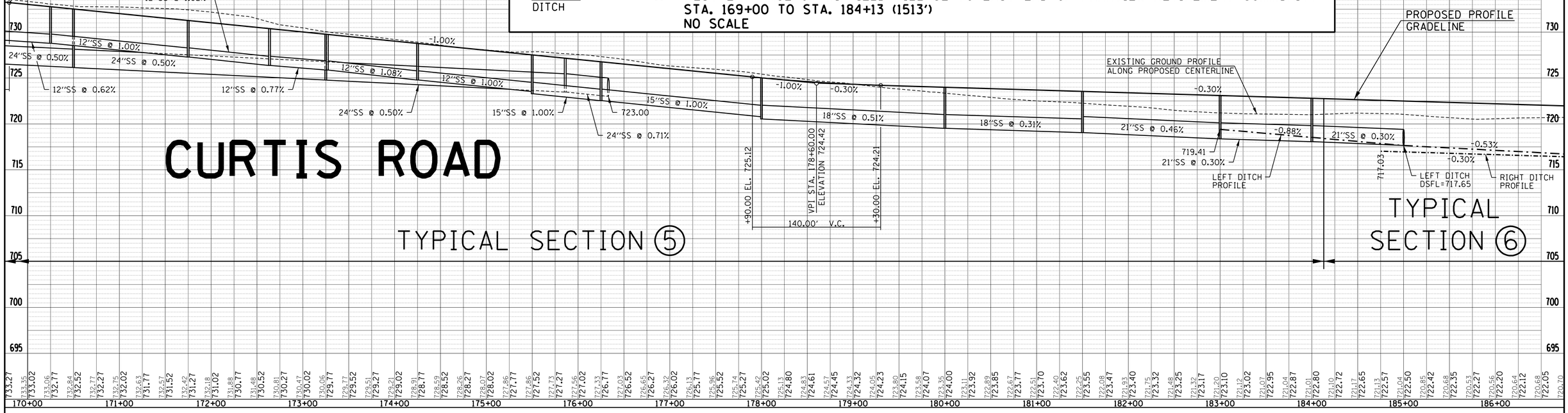
PERMANENT MAINTENANCE EASEMENT





⑤ PROPOSED TYPICAL SECTION - CURTIS ROAD

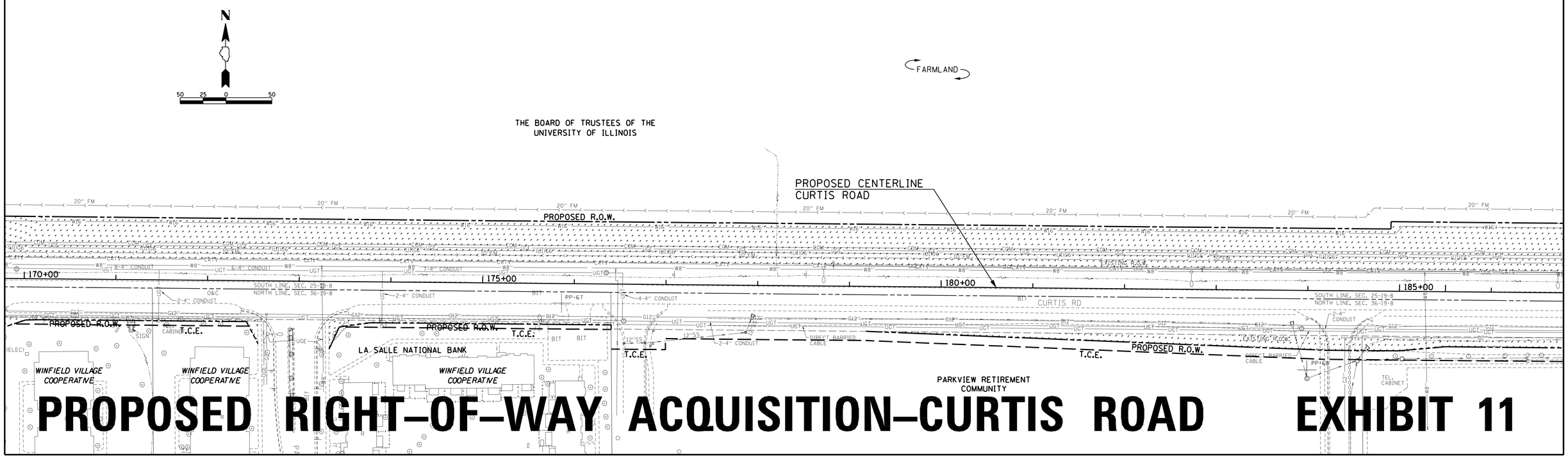
WEST ENTRANCE OF WINFIELD VILLAGE TO EAST END OF PARKVIEW RETIREMENT COMMUNITY
STA. 169+00 TO STA. 184+13 (1513')
NO SCALE



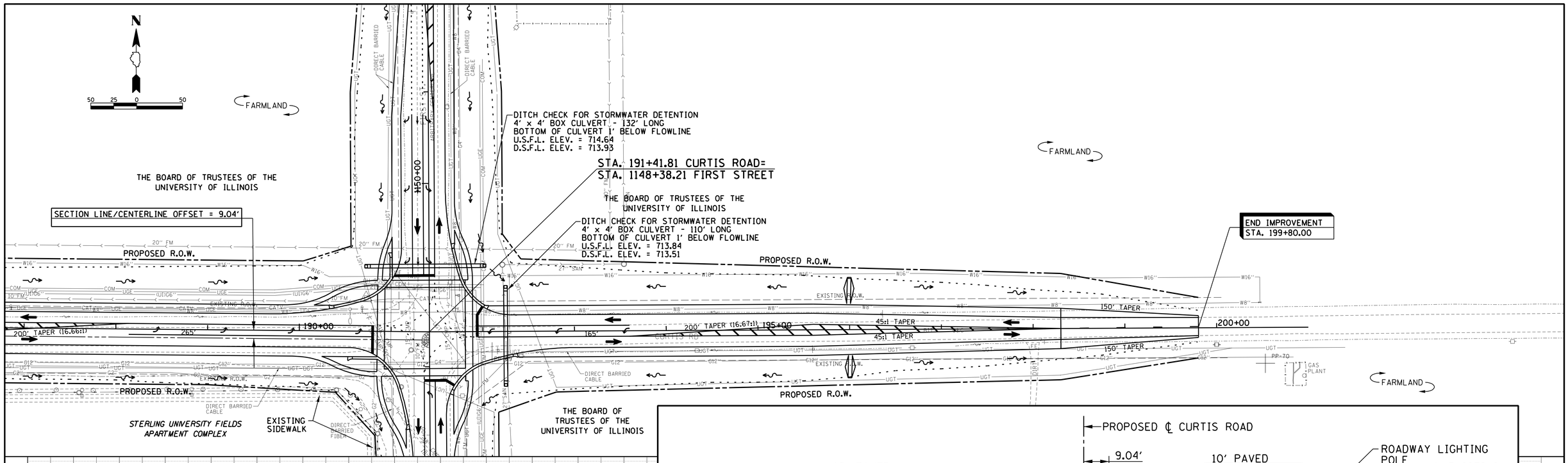
CURTIS ROAD

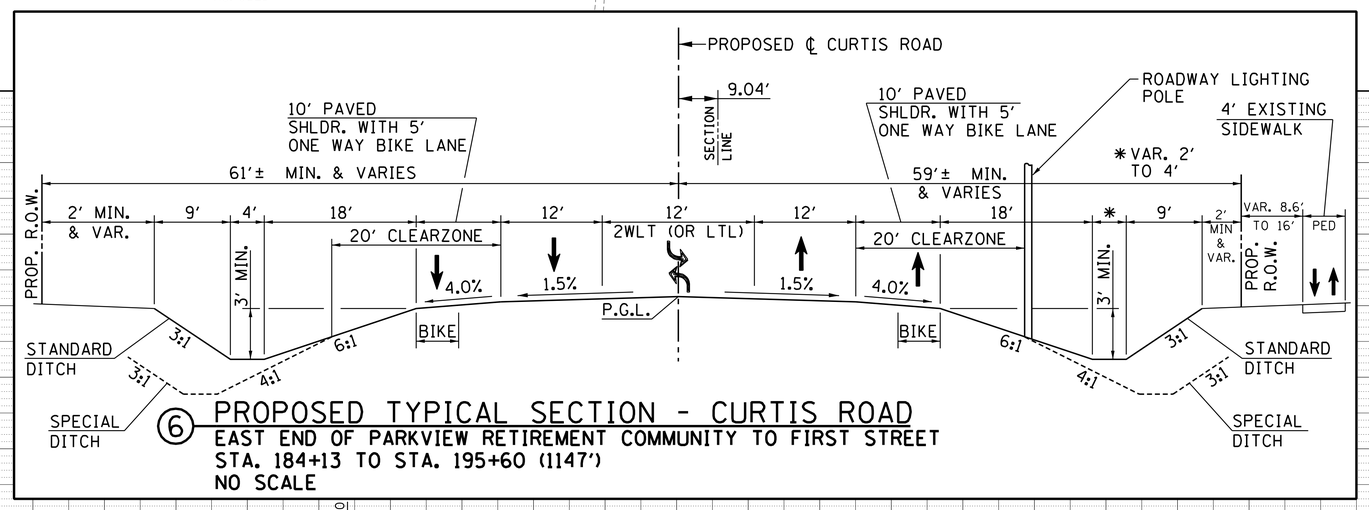
TYPICAL SECTION ⑤

TYPICAL SECTION ⑥



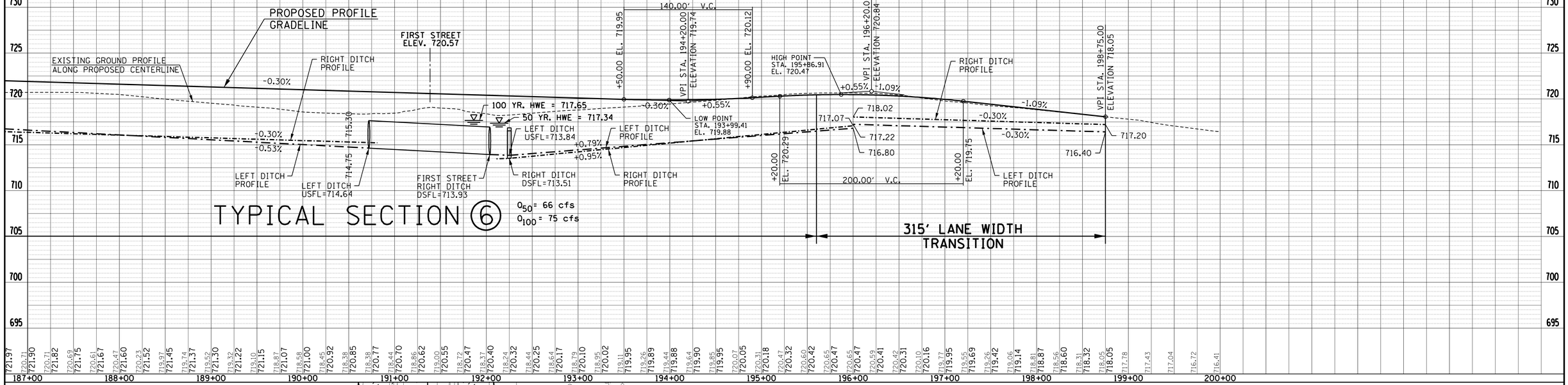
PROPOSED RIGHT-OF-WAY ACQUISITION-CURTIS ROAD EXHIBIT 11





⑥ PROPOSED TYPICAL SECTION - CURTIS ROAD
EAST END OF PARKVIEW RETIREMENT COMMUNITY TO FIRST STREET
STA. 184+13 TO STA. 195+60 (1147')
NO SCALE

CURTIS ROAD



TYPICAL SECTION ⑥
Q_{50} = 66 cfs
Q_{100} = 75 cfs

PROPOSED RIGHT–OF–WAY ACQUISITION CURTIS ROAD

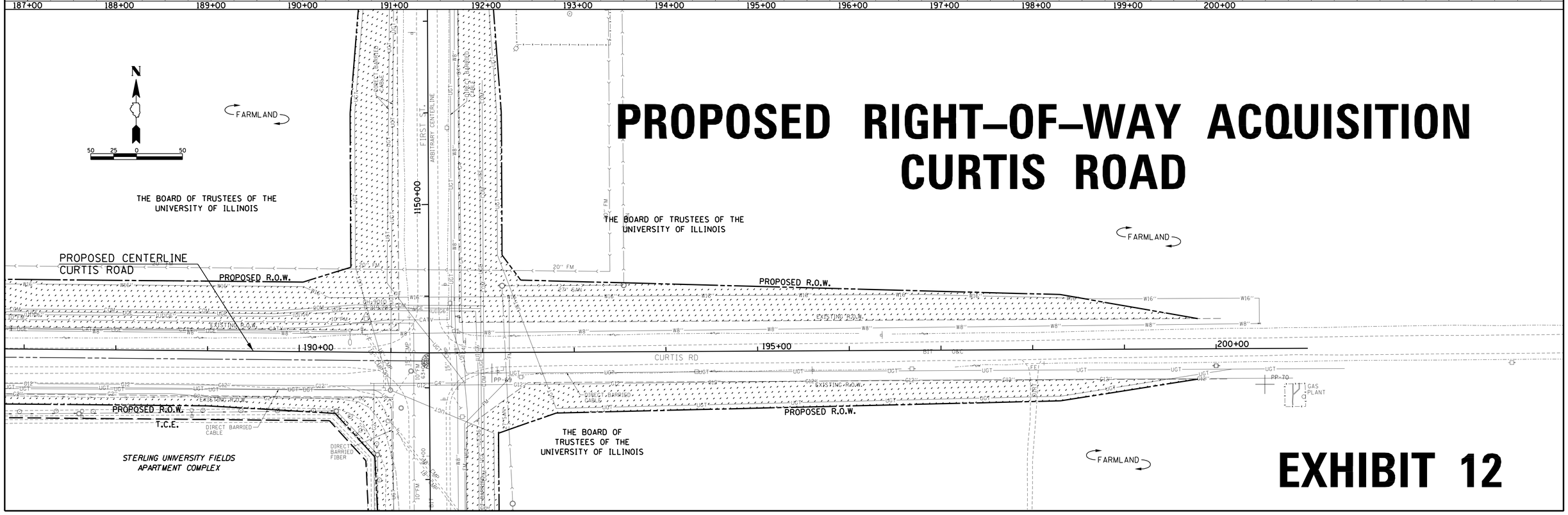
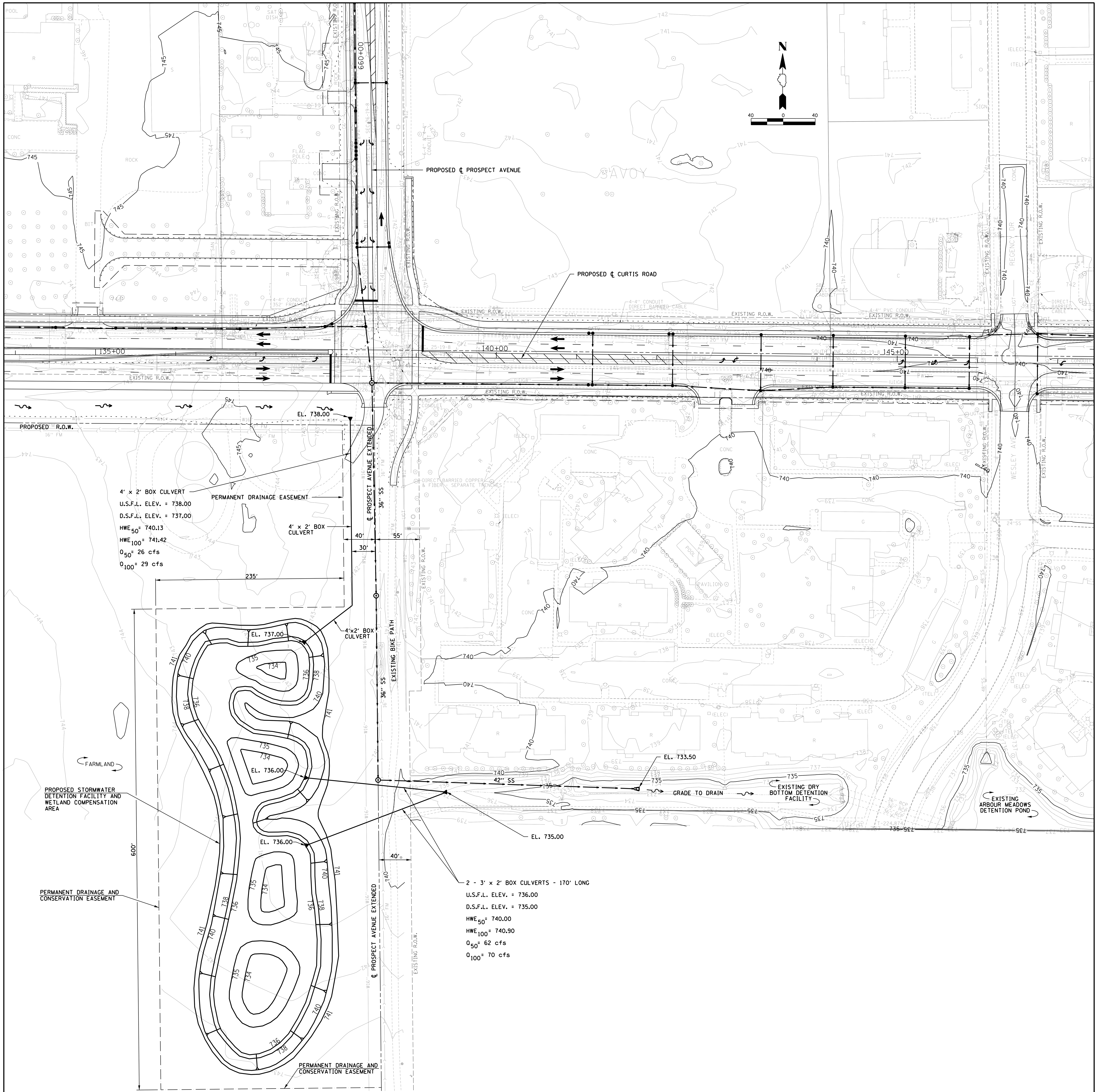
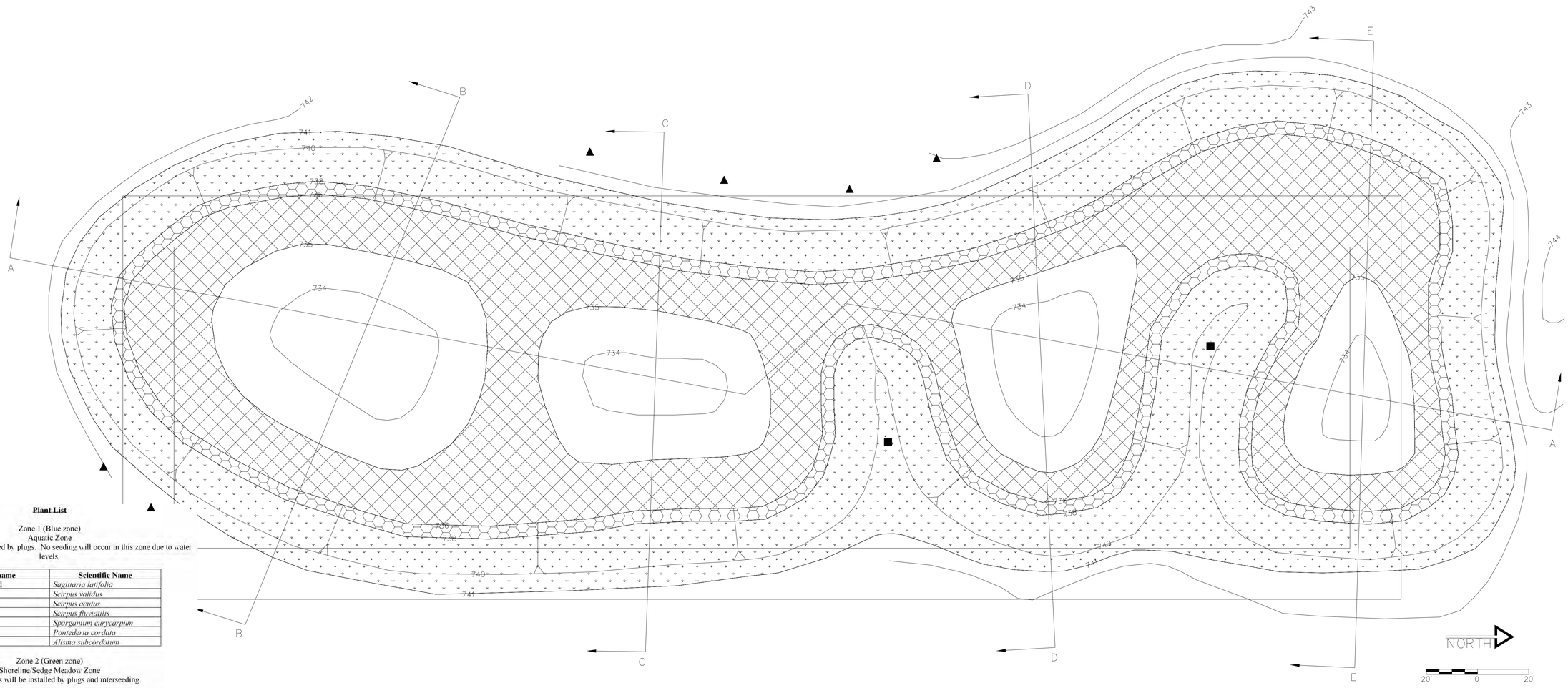


EXHIBIT 12



PROPOSED ℄ PROSPECT AVENUE
PROPOSED ℄ CURTIS ROAD
SAVOY
EXISTING R.O.W.
PROPOSED R.O.W.
135+00
140+00
145+00
660+00
REGENCY DR
WESLEY AVE
EL. 738.00
4' x 2' BOX CULVERT
U.S.F.L. ELEV. = 738.00
D.S.F.L. ELEV. = 737.00
HWE$_{50}$= 740.13
HWE$_{100}$= 741.42
Q$_{50}$= 26 cfs
Q$_{100}$= 29 cfs
PERMANENT DRAINAGE EASEMENT
4' x 2' BOX CULVERT
40'
30'
55'
235'
600'
℄ PROSPECT AVENUE EXTENDED
36" SS
EXISTING BIKE PATH
4'x2' BOX CULVERT
EL. 737.00
EL. 736.00
EL. 736.00
FARMLAND
PROPOSED STORMWATER DETENTION FACILITY AND WETLAND COMPENSATION AREA
PERMANENT DRAINAGE AND CONSERVATION EASEMENT
PERMANENT DRAINAGE AND CONSERVATION EASEMENT
42" SS
EL. 733.50
EL. 735.00
GRADE TO DRAIN
EXISTING DRY BOTTOM DETENTION FACILITY
EXISTING ARBOUR MEADOWS DETENTION POND
40'
2 - 3' x 2' BOX CULVERTS - 170' LONG
U.S.F.L. ELEV. = 736.00
D.S.F.L. ELEV. = 735.00
HWE$_{50}$= 740.00
HWE$_{100}$= 740.90
Q$_{50}$= 62 cfs
Q$_{100}$= 70 cfs

CURTIS ROAD – SOUTH PROSPECT DETENTION FACILITY EXHIBIT 13



Plant List

Zone 1 (Blue zone)
Aquatic Zone
These species will be installed by plugs. No seeding will occur in this zone due to water levels.

Common name	Scientific Name
Broad leaf arrowhead	*Sagittaria latifolia*
Softstem bulrush	*Scirpus validus*
Hardstem bulrush	*Scirpus acutus*
River bulrush	*Scirpus fluviatilis*
Common burreed	*Sparganium euryxarpum*
Pickerelweed	*Pontederia cordata*
Water plantain	*Alisma subcordatum*

Zone 2 (Green zone)
Shoreline/Sedge Meadow Zone
These species will be installed by plugs and interseeding.

Common name	Scientific Name
Swamp milkweed	*Asclepias incarnata*
Sweet flag	*Acorus calamus*
Chairmakers rush	*Scirpus americanus*
Torrey's rush	*Juncus torreyi*
Switch grass	*Panicum virgatum*
Lake sedge	*Carex lacustris*
Spotted Joe Pye weed	*Eupatorium maculatum*
Cardinal flower	*Lobelia cardinalis*
Riddell's goldenrod	*Solidago riddellii*
Wool grass	*Scirpus cyperinus*
Fox sedge	*Carex vulpinoidea*
Rice cutgrass	*Leersia oryzoides*
Bebb's sedge	*Carex bebbii*
False dragonhead	*Physostegia virginiana*
Cut-leaf water horehound	***Lycopus americanus***
Turtlehead	***Chelone glabra***
Swamp buttercup	***Ranunculus septentrionalis***
Boneset	*Eupatorium perfoliatum*
Great blue lobelia	*Lobelia siphilitica*
Willow herb	*Epilobium coloratum*

Boldface indicates questionable availability

Plant List

Zone 3 (Orange zone)
Mesic Prairie
These species will be installed by plugs and interseeding.

Common name	Scientific Name
Culver's root	*Veronicastrum virginicum*
Cup-plant	*Silphium perfoliatum*
Prairie cordgrass	*Spartina pectinata*
Big bluestem	*Andropogon gerardii*
Indian grass	*Sorghastrum nutans*
Purple coneflower	*Echinacea purpurea*
Blazing star	*Liatris spicata*
Rattlesnake master	*Eryngium yuccifolium*
New England Aster	*Aster novae-angliae*
Prairie dock	*Silphium terebinthinacea*
Canada milkvetch	***Astragalus canadensis***
Virginia wild rye	*Elymus virginicus*
Golden alexander	*Zizea aurea*
Mountain blue-eyed grass	*Sisyrinchium campestre*
Sky blue aster	*Aster azureus*
Little bluestem	*Andropogon scoparius*
Purple prairie clover	*Dalea purpurea*
Prairie smoke	***Geum triflorum***
Prairie dropseed	*Sporobolus heterolepis*

Boldface indicates questionable availability

Plant List

Zone 4 (Red Zone)
Prairie mix
These species will be installed by plugs and interseeding.

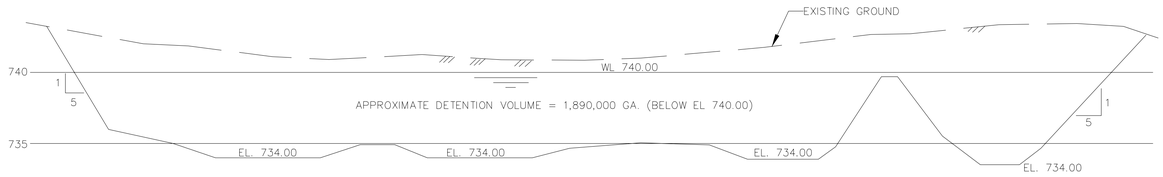
Common name	Scientific Name
Wild bergamot	*Monarda fistulosa*
Side oats grama	*Bouteloua curtipendula*
Big bluestem	*Andropogon gerardii*
Indian grass	*Sorghastrum nutans*
Purple coneflower	*Echinacea purpurea*
Yellow coneflower	*Ratibida pinnata*
Butterfly weed	*Asclepias tuberosa*
Partridge pea	*Cassia fasciculata*
Prairie dock	*Silphium terebinthinacea*
Compass plant	*Silphium laciniatum*
Prairie smoke	***Geum triflorum***
Indian paintbrush	***Castilleja coccinea***
Wild hyacinth	***Camassia scilloides***
White wild indigo	***Baptisia leucantha***
Shooting star	*Dodecatheon meadia*
Canada milkvetch	*Astragalus canadensis*
Prairie redroot	*Ceanothus ovatus*
Canada hawkweed	*Hieracium canadense*
Virginia wild rye	*Elymus virginicus*
Golden alexander	*Zizea aurea*
Wild quinine	*Parthenium integrifolium*
Prairie goldenrod	*Solidago patula*
Jacob's ladder	*Polemonium reptans*
Prairie phlox	*Phlox pilosa*
Compass plant	*Silphium laciniatum*
White wild indigo	*Baptisia leucantha*
Shooting star	*Dodecatheon meadia*
Lance-leaf coreopsis	*Coreopsis lanceolata*
New Jersey tea	*Ceanothus americana*

Boldface indicates questionable availability

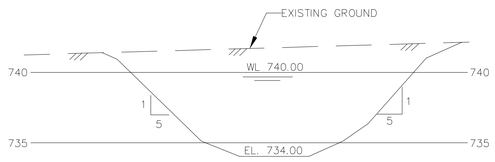
Tree Species

Common name	Scientific Name
▲ Swamp white oak	*Quercus bicolor*
■ Bur oak	*Quercus macrocarpa*

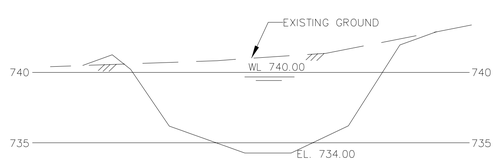
℄ PROSPECT AVENUE EXTENDED



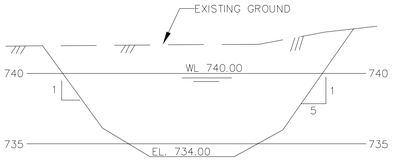
SECTION A–A
NOT TO SCALE



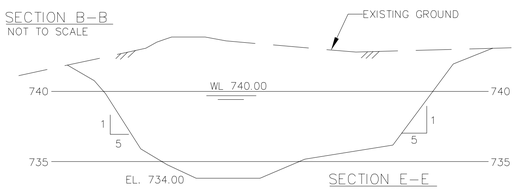
SECTION B–B
NOT TO SCALE



SECTION C–C
NOT TO SCALE



SECTION D–D
NOT TO SCALE



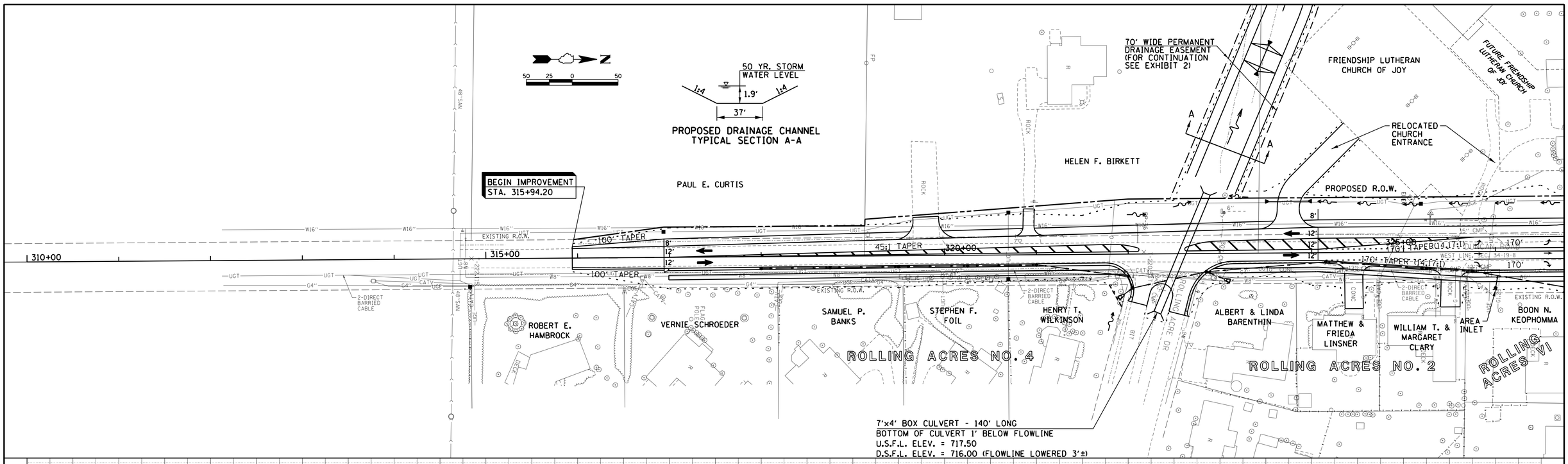
SECTION E–E
NOT TO SCALE

CURTIS ROAD
DETENTION POND GRADING PLAN AND CROSS SECTIONS

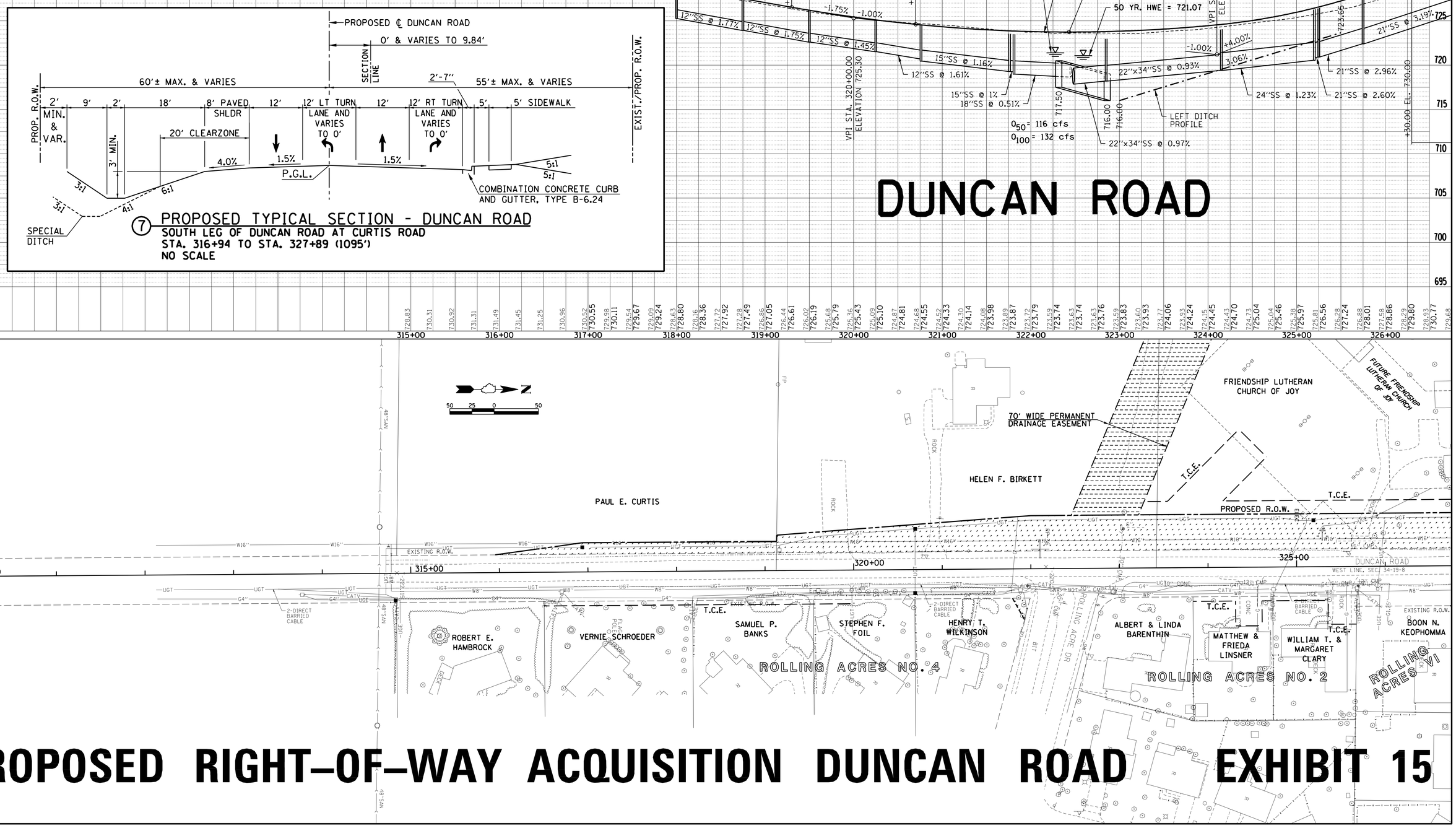
DRWN. BY DMG	HUFF & HUFF, INC. LaGRANGE, IL			
DSN'D BY FH/JN	DATE	SCALE	DWG. #	SHEET #
CHK'D BY JN	11/15/02	AS NOTED	CD-CURTIS-3	1 OF 2

CURTIS ROAD - WETLAND COMPENSATION PLAN

EXHIBIT 14

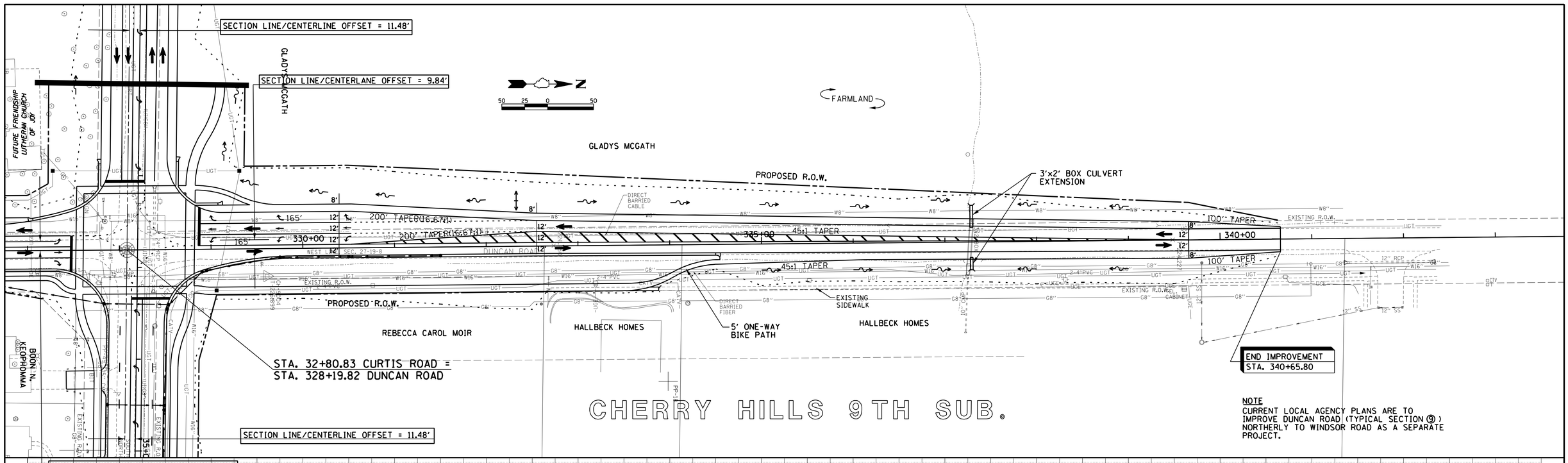


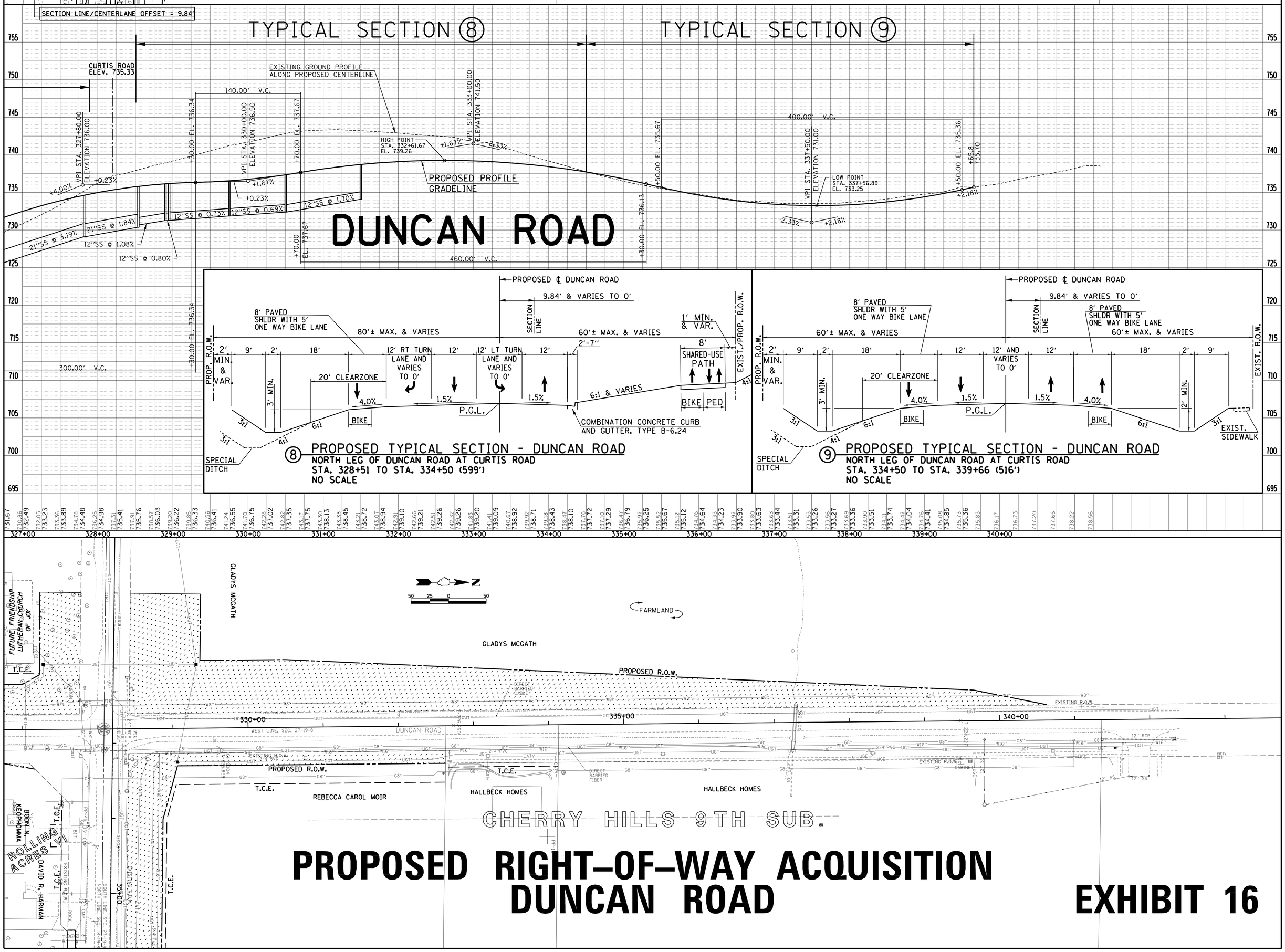
⑦ PROPOSED TYPICAL SECTION - DUNCAN ROAD
SOUTH LEG OF DUNCAN ROAD AT CURTIS ROAD
STA. 316+94 TO STA. 327+89 (1095')
NO SCALE



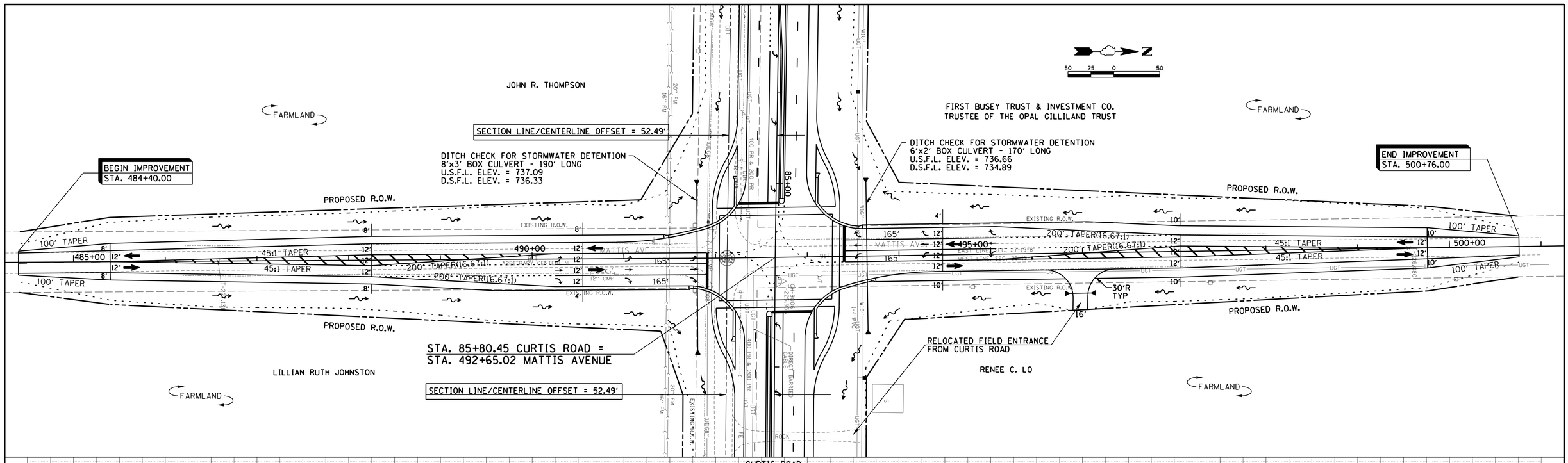
DUNCAN ROAD

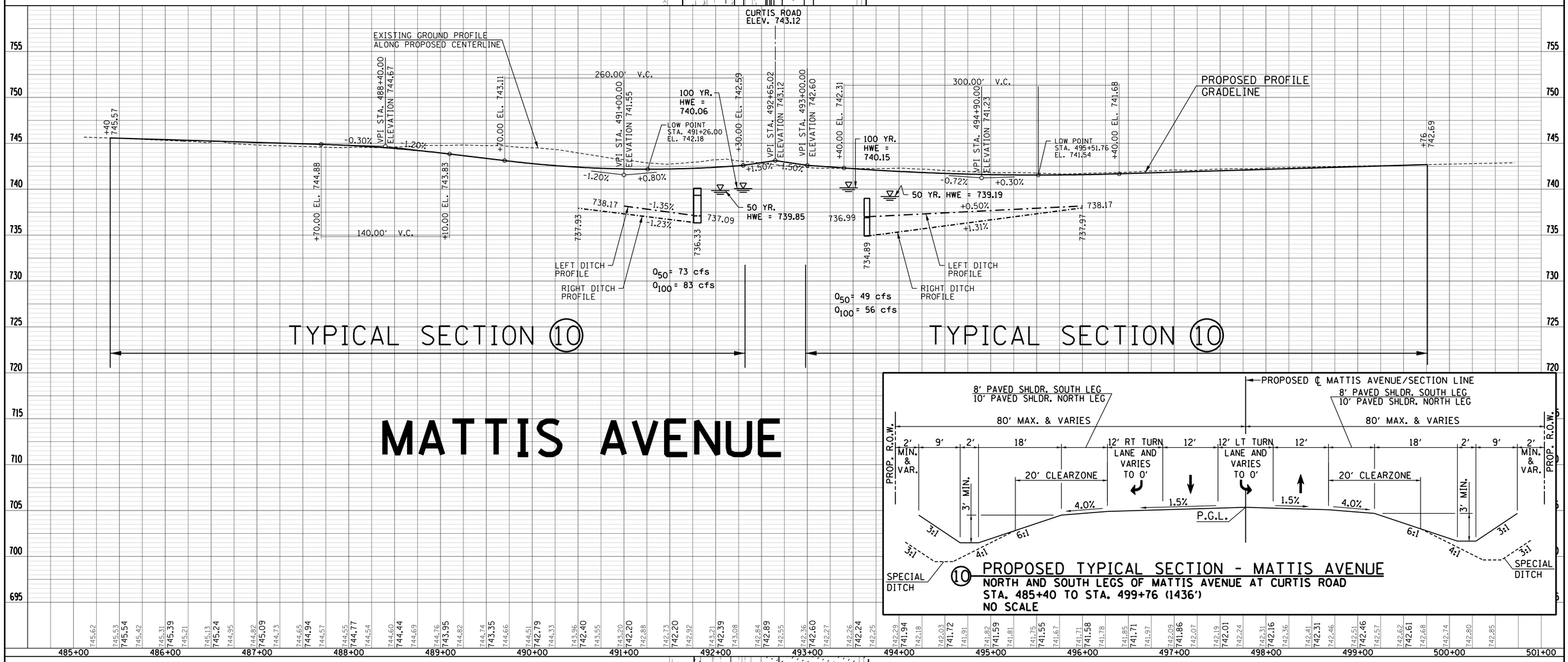
PROPOSED RIGHT-OF-WAY ACQUISITION DUNCAN ROAD EXHIBIT 15

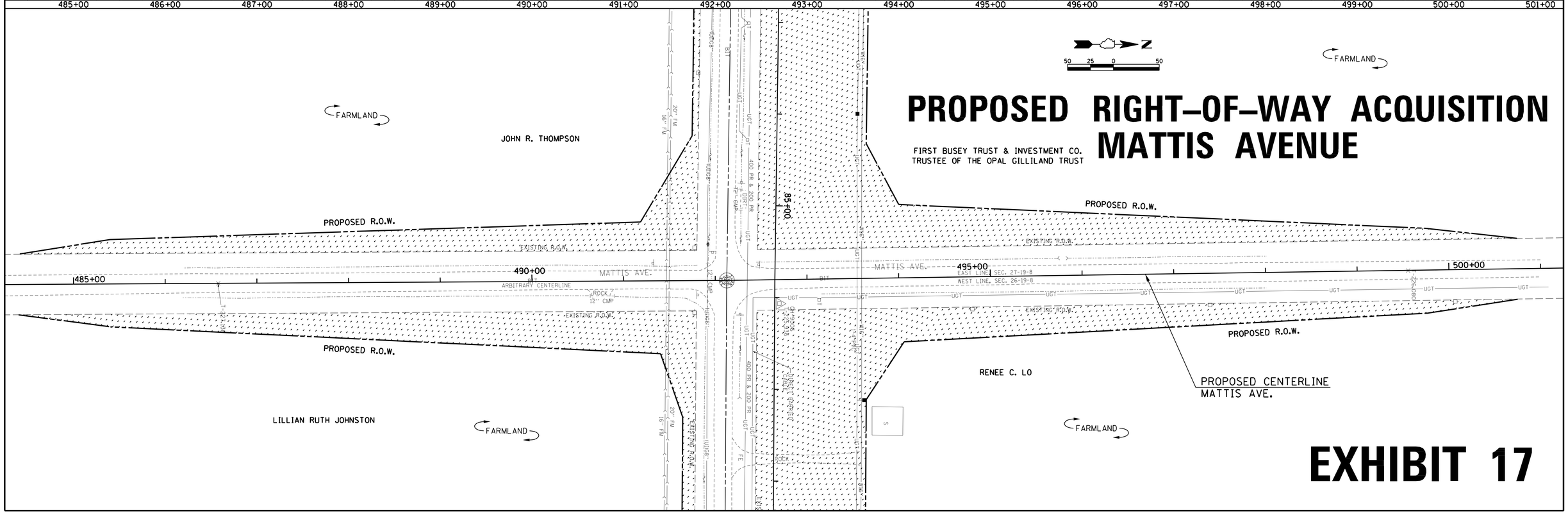




MATTIS AVENUE

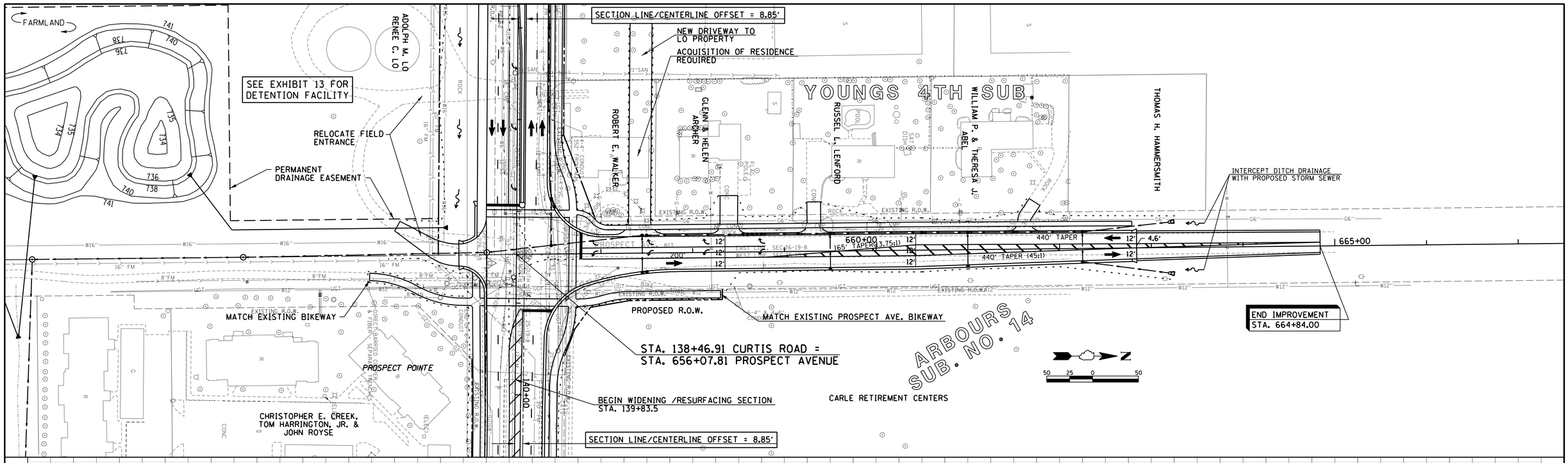


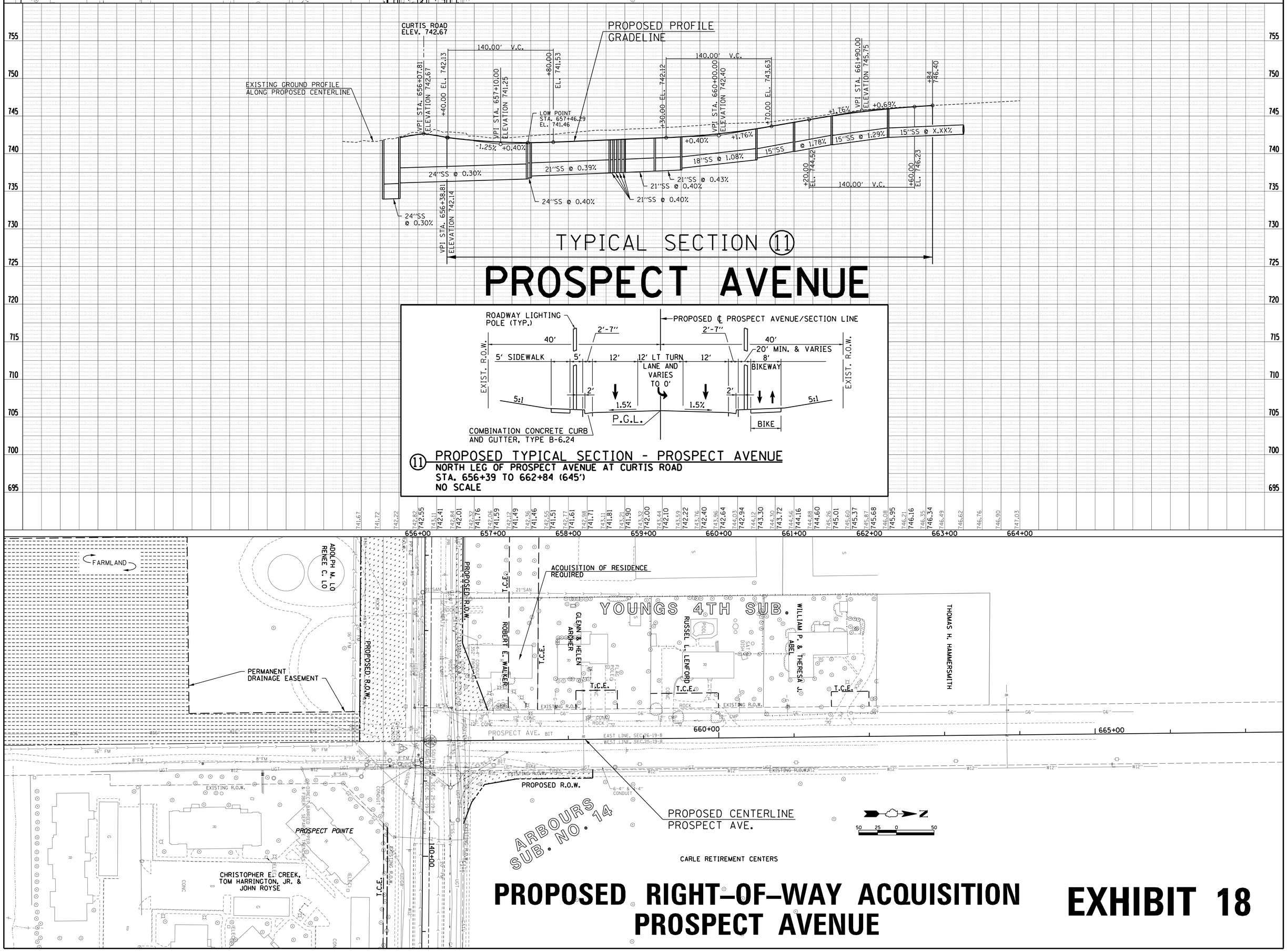




PROPOSED RIGHT–OF–WAY ACQUISITION
MATTIS AVENUE

EXHIBIT 17





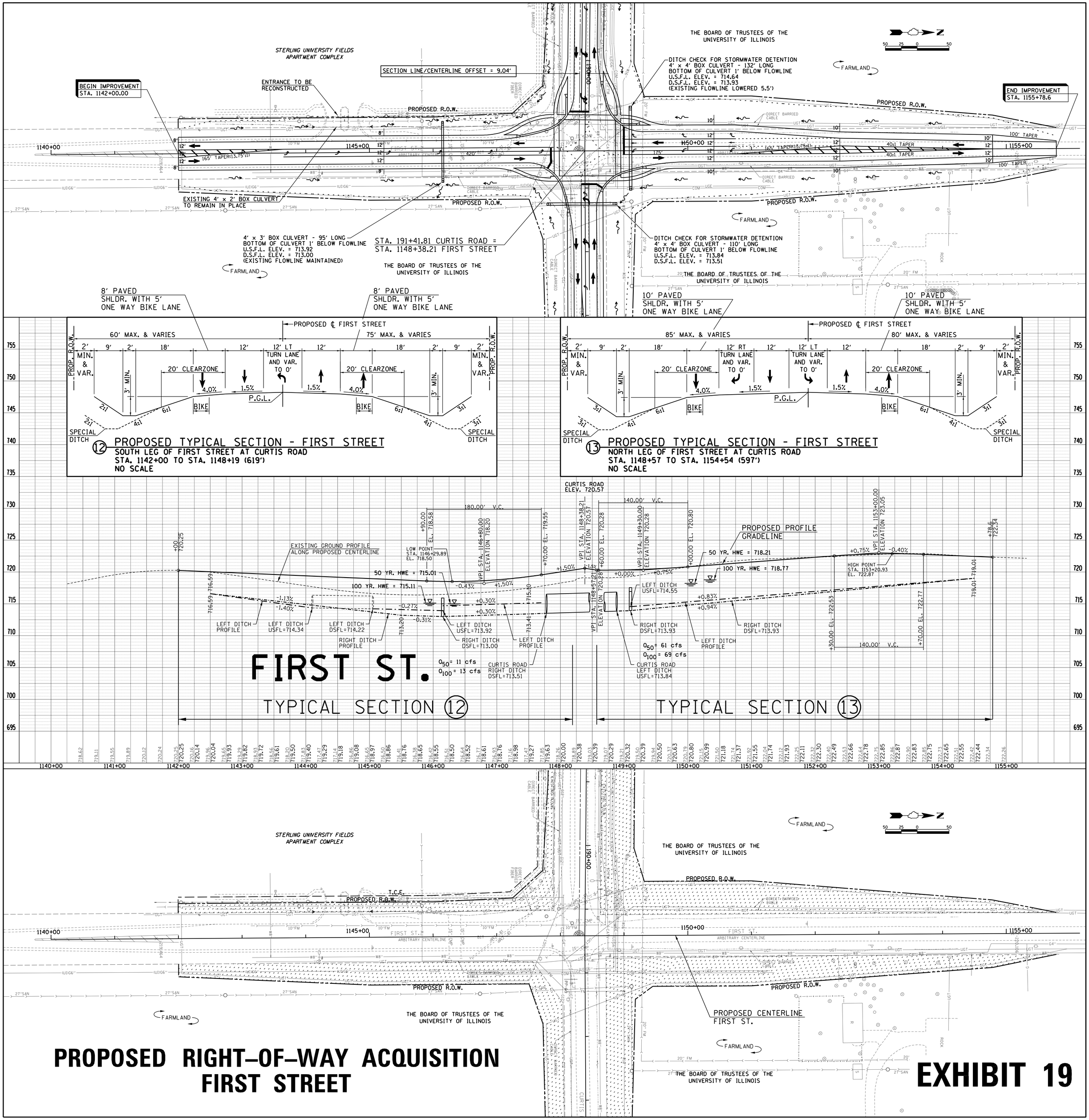
TYPICAL SECTION (11)

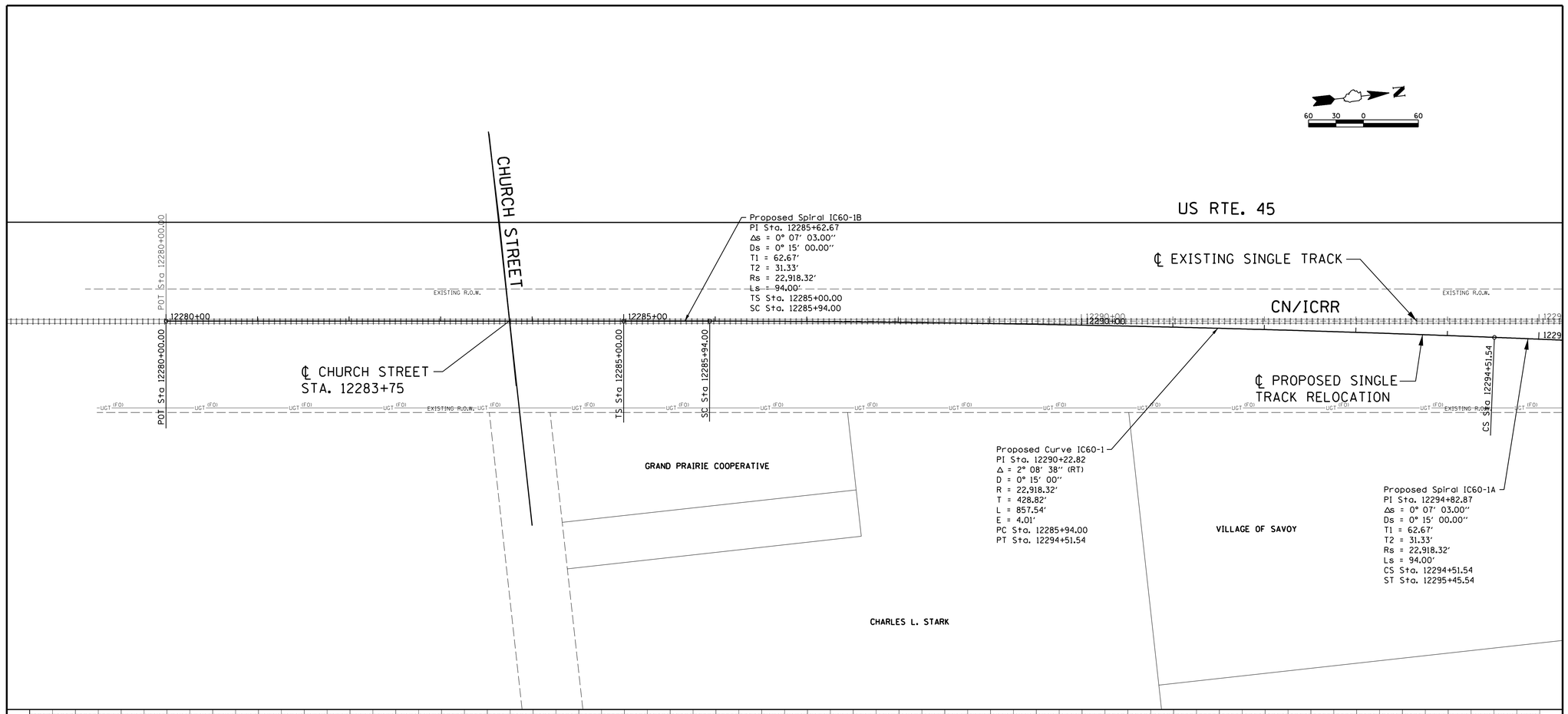
PROSPECT AVENUE

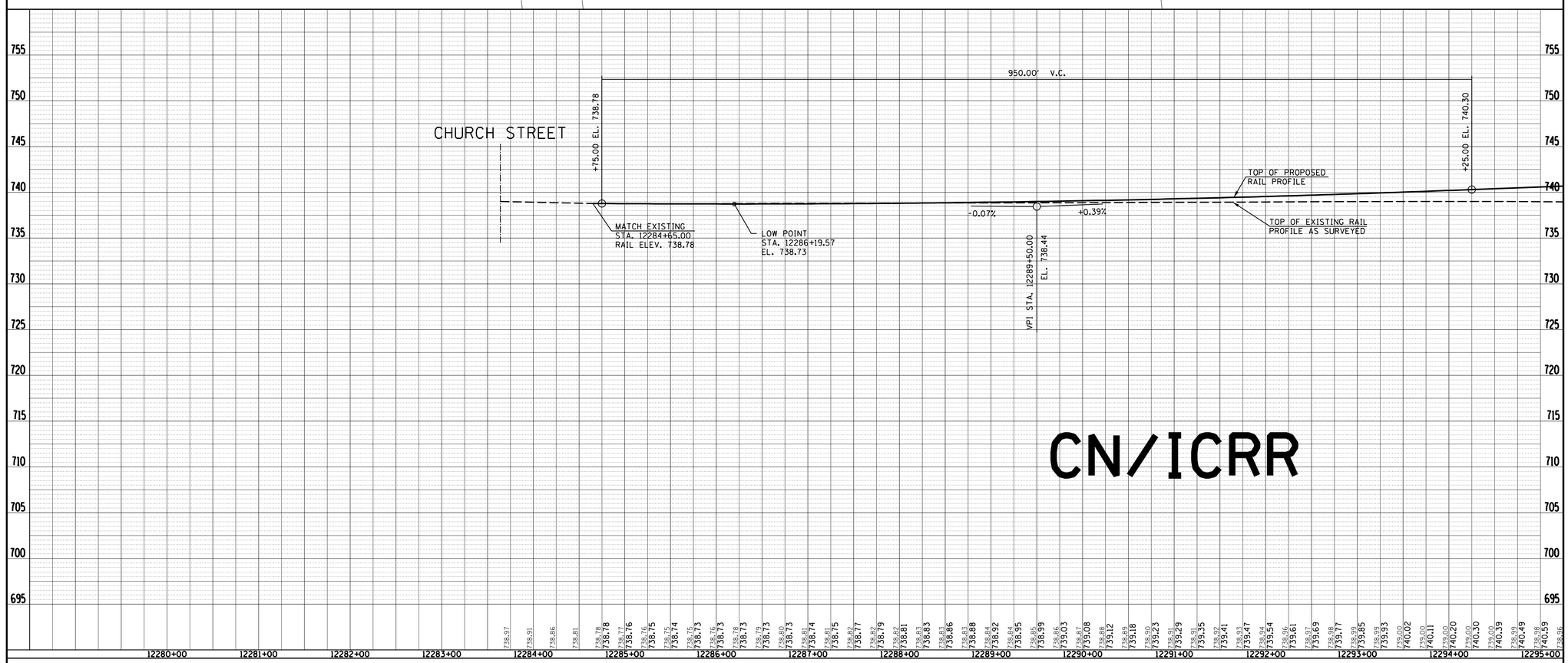
(11) PROPOSED TYPICAL SECTION - PROSPECT AVENUE
NORTH LEG OF PROSPECT AVENUE AT CURTIS ROAD
STA. 656+39 TO 662+84 (645')
NO SCALE

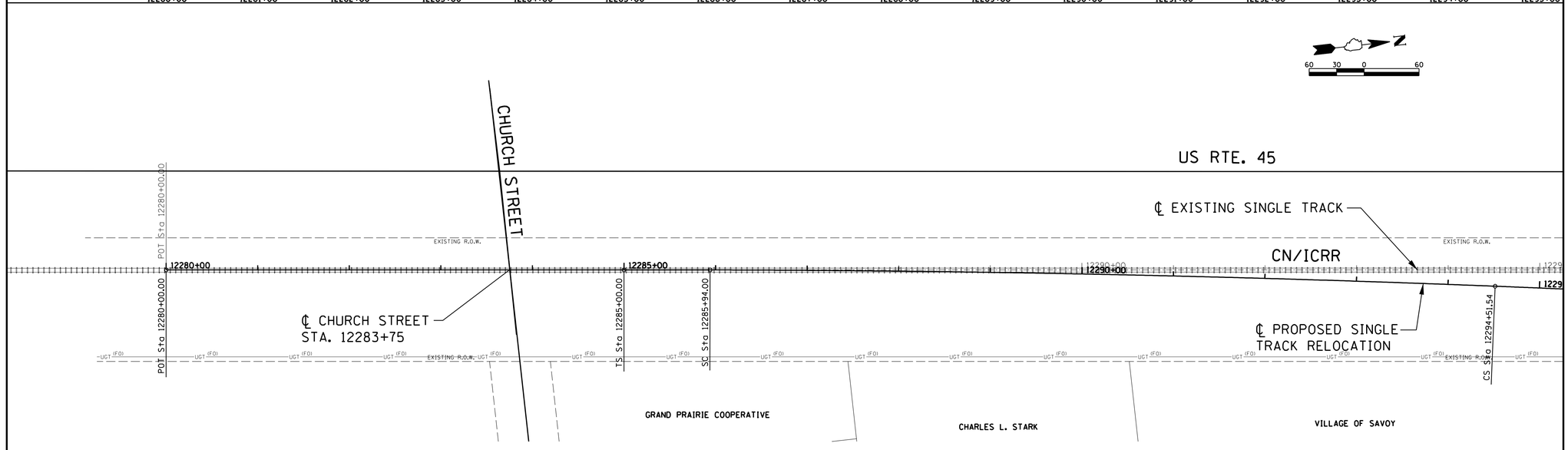
PROPOSED RIGHT-OF-WAY ACQUISITION PROSPECT AVENUE

EXHIBIT 18



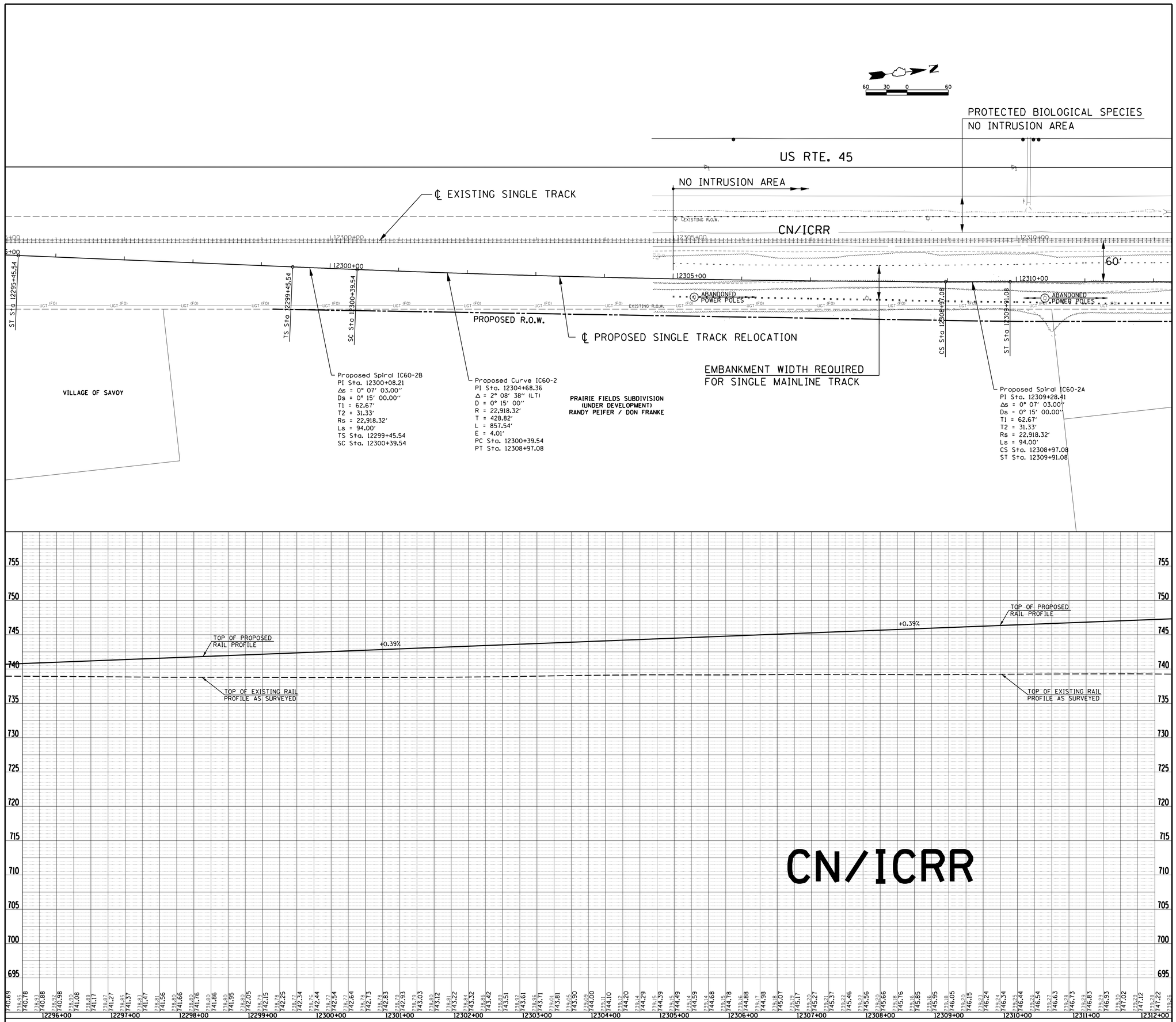


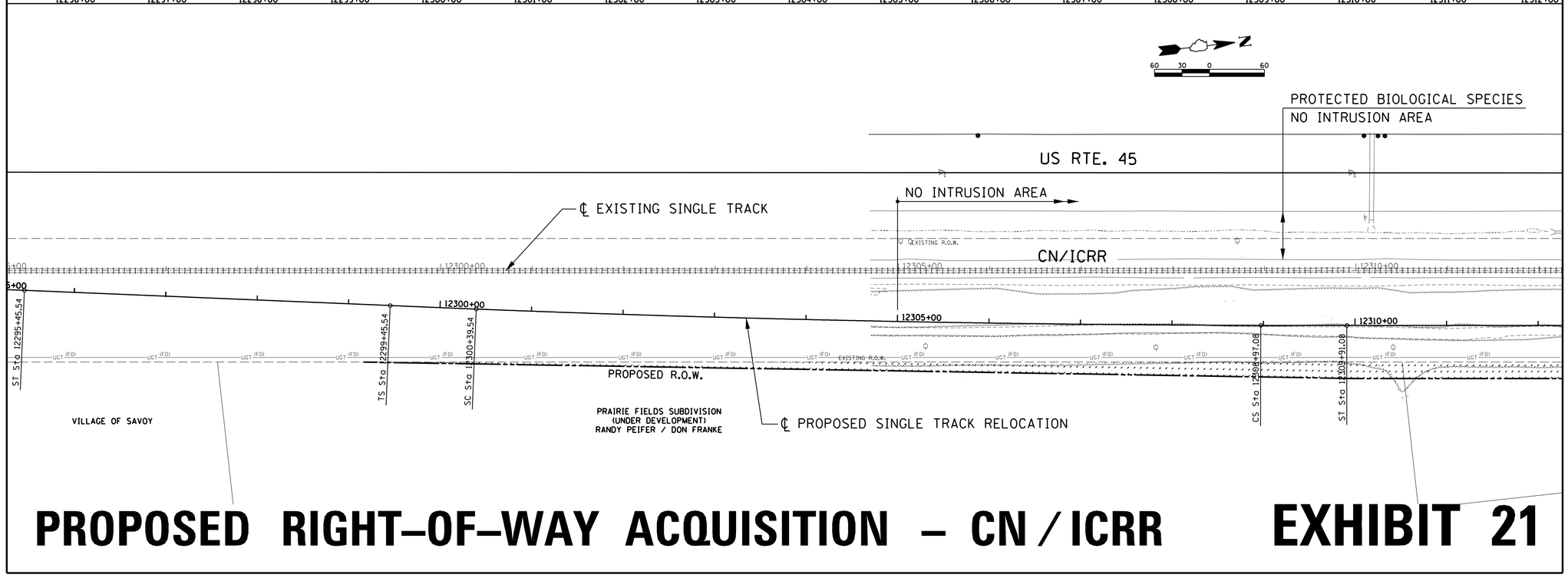




PROPOSED RIGHT–OF–WAY ACQUISITION – CN / ICRR

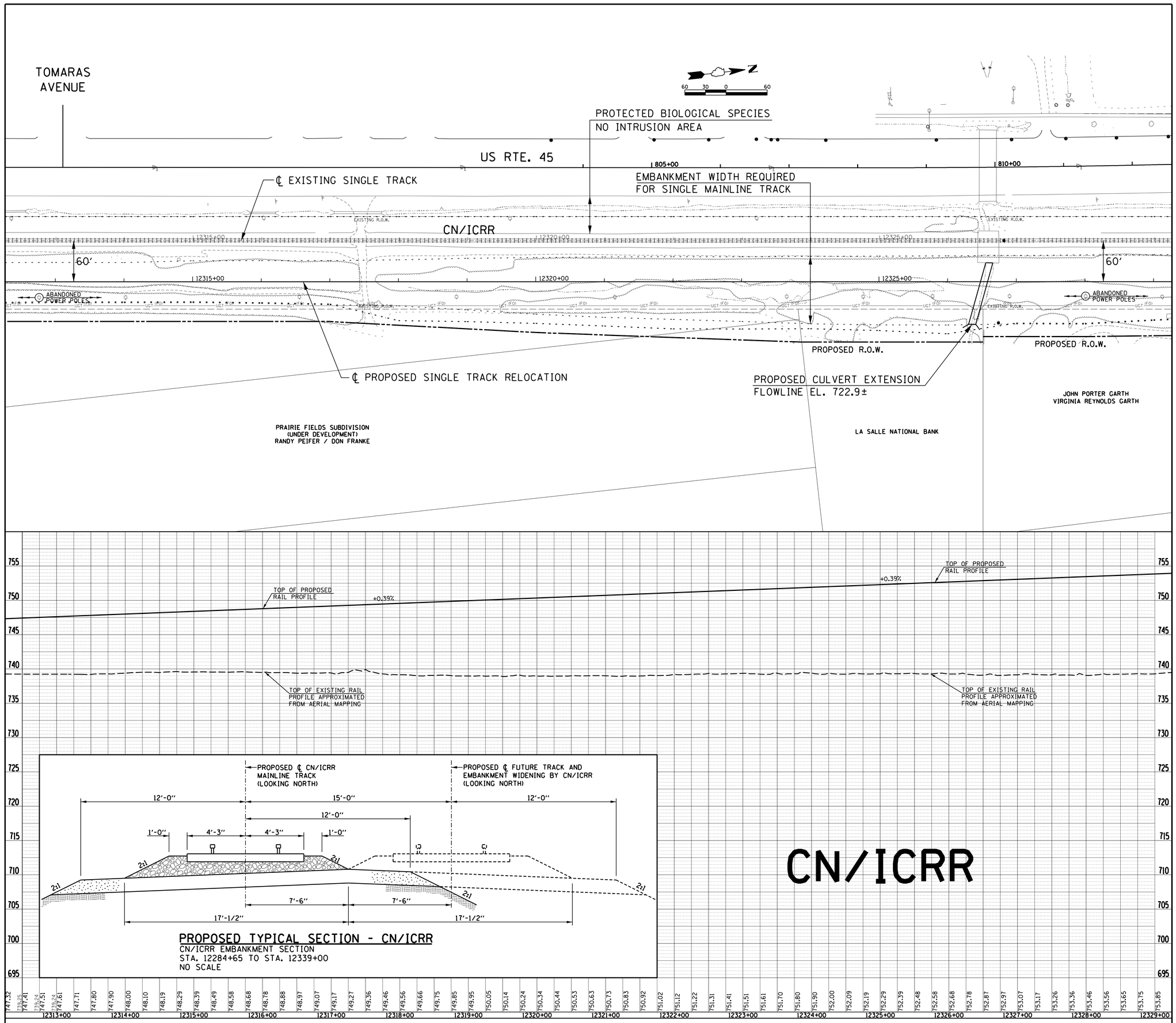
EXHIBIT 20





PROPOSED RIGHT-OF-WAY ACQUISITION - CN / ICRR

EXHIBIT 21



CN/ICRR

PROPOSED RIGHT–OF–WAY ACQUISITION – CN / ICRR

EXHIBIT 22

PAVEMENT CROSS SLOPE CORRECTION
VARIABLE DEPTH RESURFACING

PAVEMENT CROSS SLOPE CORRECTION
MILL 3''± AND RESURFACE 1½''±

STA. 161+26.11 ℄ CURTIS ROAD =
STA. 820+29.94 ℄ US RTE. 45

PROTECTED BIOLOGICAL SPECIES
NO INTRUSION AREA

US RTE. 45

NO INTRUSION AREA

RECONSTRUCT EXISTING
RIGHT TURN LANE

TAKE OFF POINT FOR PROPOSED
SUBWAY PROFILE - EL. 739.29

PERMANENT MAINTENANCE EASEMENT

CN/ICRR

℄ EXISTING SINGLE TRACK

60'

TAKE OFF POINT FOR PROPOSED
SUBWAY PROFILE - EL. 739.21

ABANDONED POWER POLES

EXISTING POWER POLES TO BE RELOCATED

℄ PROPOSED SINGLE TRACK RELOCATION

PROPOSED R.O.W.

STA. 12339+00
BEGIN EMBANKMENT WIDTH FOR
SINGLE MAINLINE TRACK PLUS
SIDING TRACK

FARMLAND

THE BOARD OF TRUSTEES OF THE
UNIVERSITY OF ILLINOIS

EMBANKMENT WIDTH REQUIRED
FOR SINGLE MAINLINE TRACK

JOHN PORTER GARTH
VIRGINIA REYNOLDS GARTH

RELOCATED GARTH
ENTRANCE

OUT-BUILDINGS TO BE
REMOVED OR RELOCATED

STA. 12337+19.24 ℄ PROPOSED SINGLE TRACK RELOCATION =
STA. 163+11.90 ℄ CURTIS ROAD

TOP OF PROPOSED RAIL PROFILE

STA. 12337+19.24, EL. 757.05

℄ CURTIS ROAD

+00.00 EL. 757.36

+0.39%

-0.39%

HIGH POINT
STA. 12342+00.00
EL. 758.14

VPI STA. 12342+00.00
EL. 758.92

800.00' V.C.

TOP OF EXISTING RAIL PROFILE APPROXIMATED FROM AERIAL MAPPING

PROPOSED PGL
EB CURTIS ROAD
STA. 163+11.90
EL. 736.11

PROPOSED PGL
WB CURTIS ROAD
STA. 163+11.90
EL. 736.19

755
750
745
740
735
730
725
720
715
710
705
700
695

753.95 754.04 754.14 754.24 754.34 754.43 754.53 754.63 754.73 754.82 754.92 755.02 755.12 755.21 755.31 755.41 755.51 755.60 755.70 755.80 755.90 755.99 756.09 756.19 756.29 756.38 756.48 756.58 756.68 756.77 756.87 756.97 757.07 757.16 757.26 757.36 757.45 757.54 757.63 757.70 757.77 757.84 757.89 757.95 757.99 758.03 758.06 758.09 758.11 758.13 758.14 758.14 758.13 758.11 758.09 758.06 758.03 757.99 757.95 757.89 757.84 757.77 757.70 757.63 757.54 757.45 757.36

12330+00 12331+00 12332+00 12333+00 12334+00 12335+00 12336+00 12337+00 12338+00 12339+00 12340+00 12341+00 12342+00 12343+00 12344+00 12345+00 12346+00

CN/ICRR

PROPOSED ℄ CN/ICRR
MAINLINE TRACK
(LOOKING NORTH)

9'' 3'-8'' WALKWAY 5'-4'' 5'-4'' 3'-8'' WALKWAY 9''
9''
10''
1'-7''
9½''
5'-9½''
14'-9'' MIN.
2 SPACES AT 2'-6''=5'-0''
2 SPACES AT 2'-6''=5'-0''
36'' WIDE FLANGE BEAMS

PROPOSED TYPICAL SECTION - CN/ICRR

CN/ICRR BRIDGE AT CURTIS ROAD
STA. 12337+19.24
NO SCALE

℄ PIER

45'± 36'± 48'± 48'±

℄ CURTIS ROAD

14'-11'' MIN. VERT. CLEARANCE LOW STEEL TO PROP. P.G.L.

3' 8' 3' 3' 12' 12' 3' 12' 12' 12' 3' 3' 8' 3'
PED BIKE 10'-6'' E.B. E.B. 7' 5' W.B. W.B. 10'-6'' BIKE PED
1'-11'' 2'-7''
1'-0''
2:1
2% 1.5% 1.5% & VARIES 1.5% 2%
G. TY. A
C.&G. TY. B-6.24
PGL
C.&G. TY. B-9.24 AROUND BRIDGE PIER
C.&G. TY. B-6.24
G. TY. A

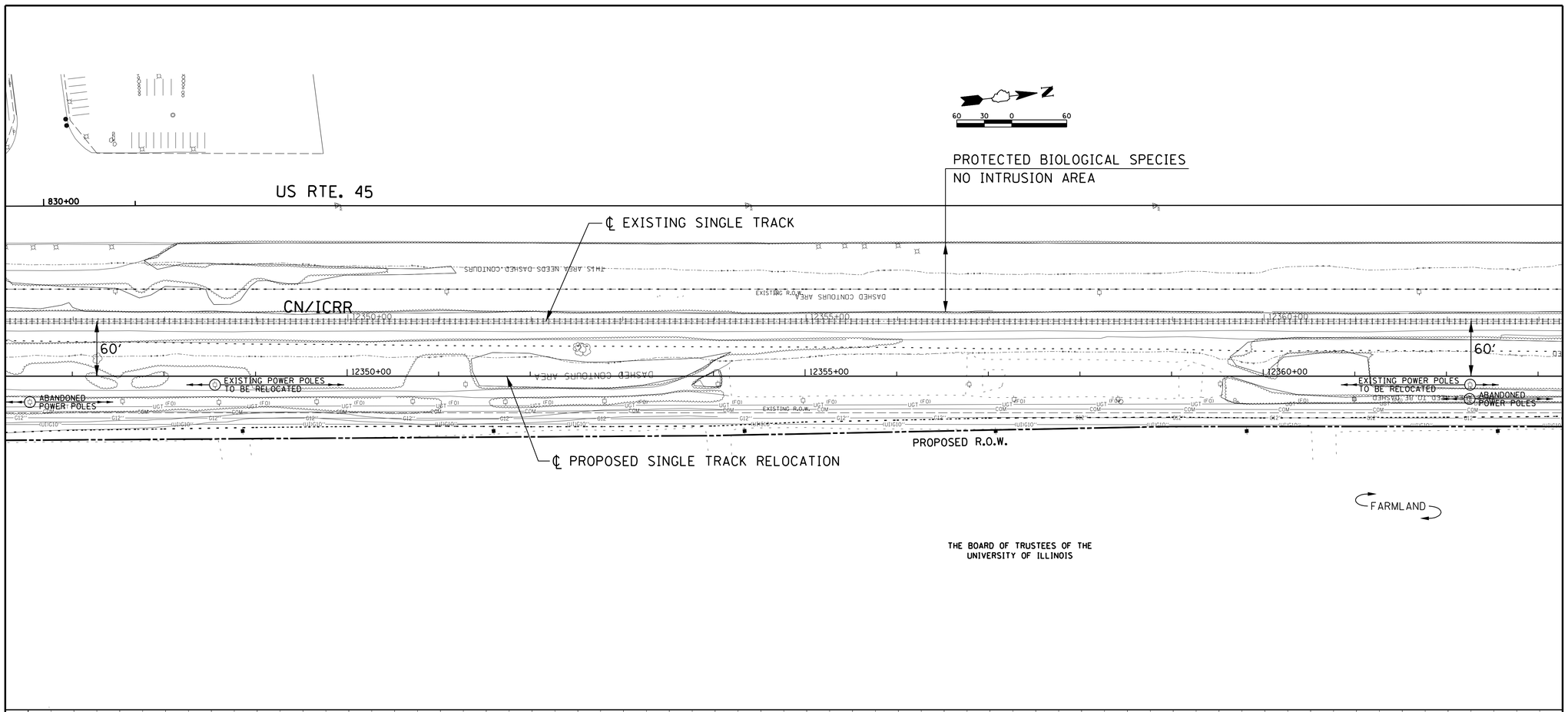
PROPOSED BRIDGE ELEVATION (LOOKING WEST)

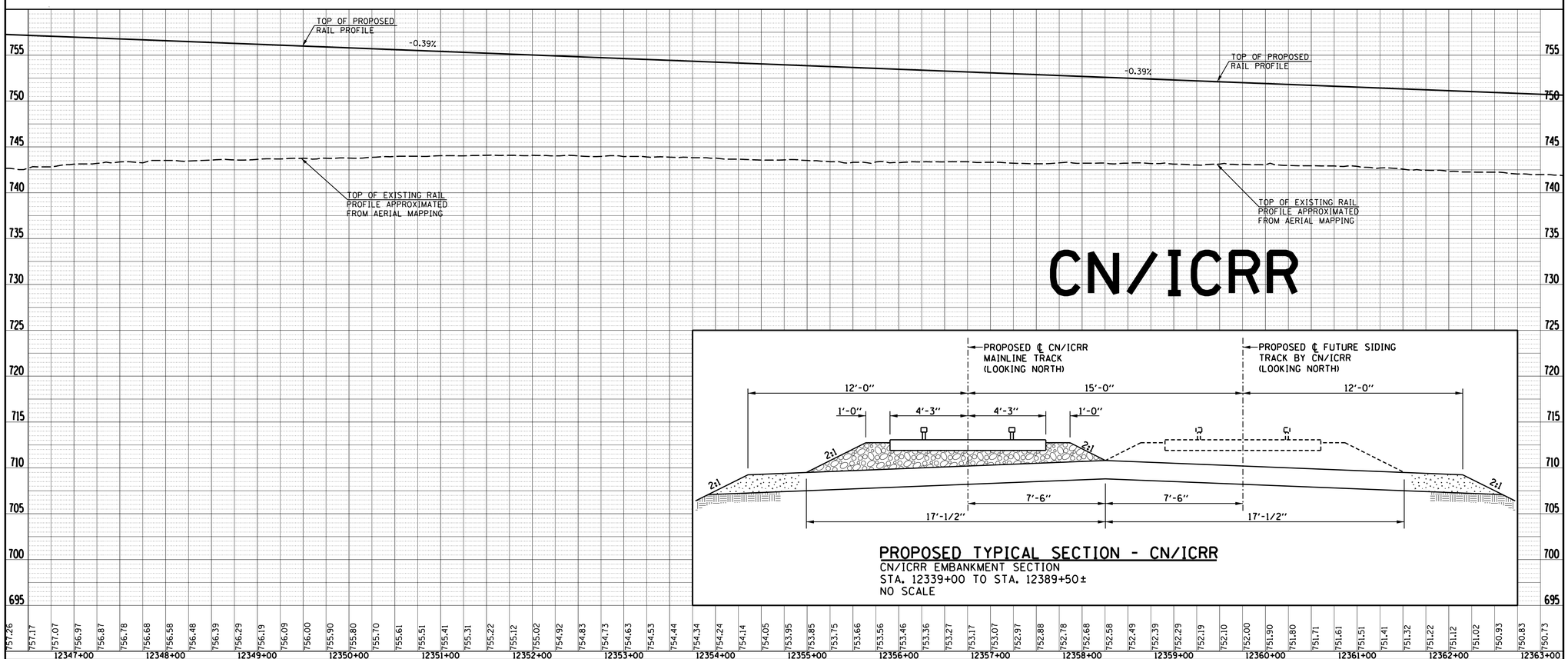
NO SCALE

PROTECTED BIOLOGICAL SPECIES
NO INTRUSION AREA
US RTE. 45
NO INTRUSION AREA
CN/ICRR
℄ PROPOSED SINGLE TRACK RELOCATION
STA. 12337+19.24 ℄ PROPOSED SINGLE TRACK RELOCATION =
STA. 163+11.90 ℄ CURTIS ROAD
℄ EXISTING SINGLE TRACK
PERMANENT MAINTENANCE EASEMENT
PROPOSED R.O.W.
THE BOARD OF TRUSTEES OF THE
UNIVERSITY OF ILLINOIS
FARMLAND
JOHN PORTER GARTH
VIRGINIA REYNOLDS GARTH

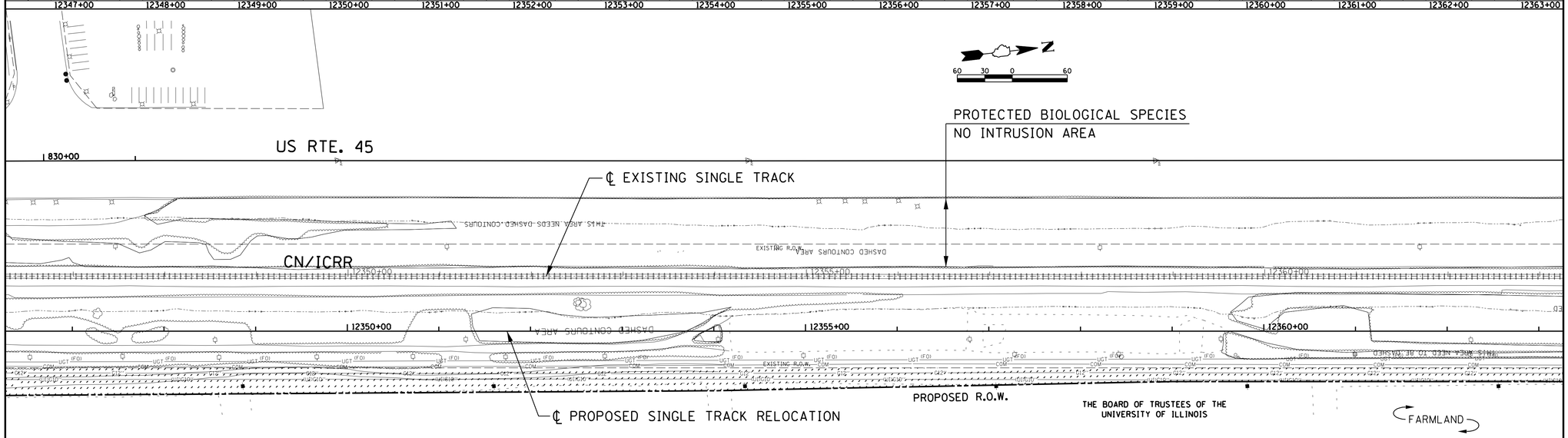
PROPOSED RIGHT-OF-WAY ACQUISITION - CN / ICRR

EXHIBIT 23



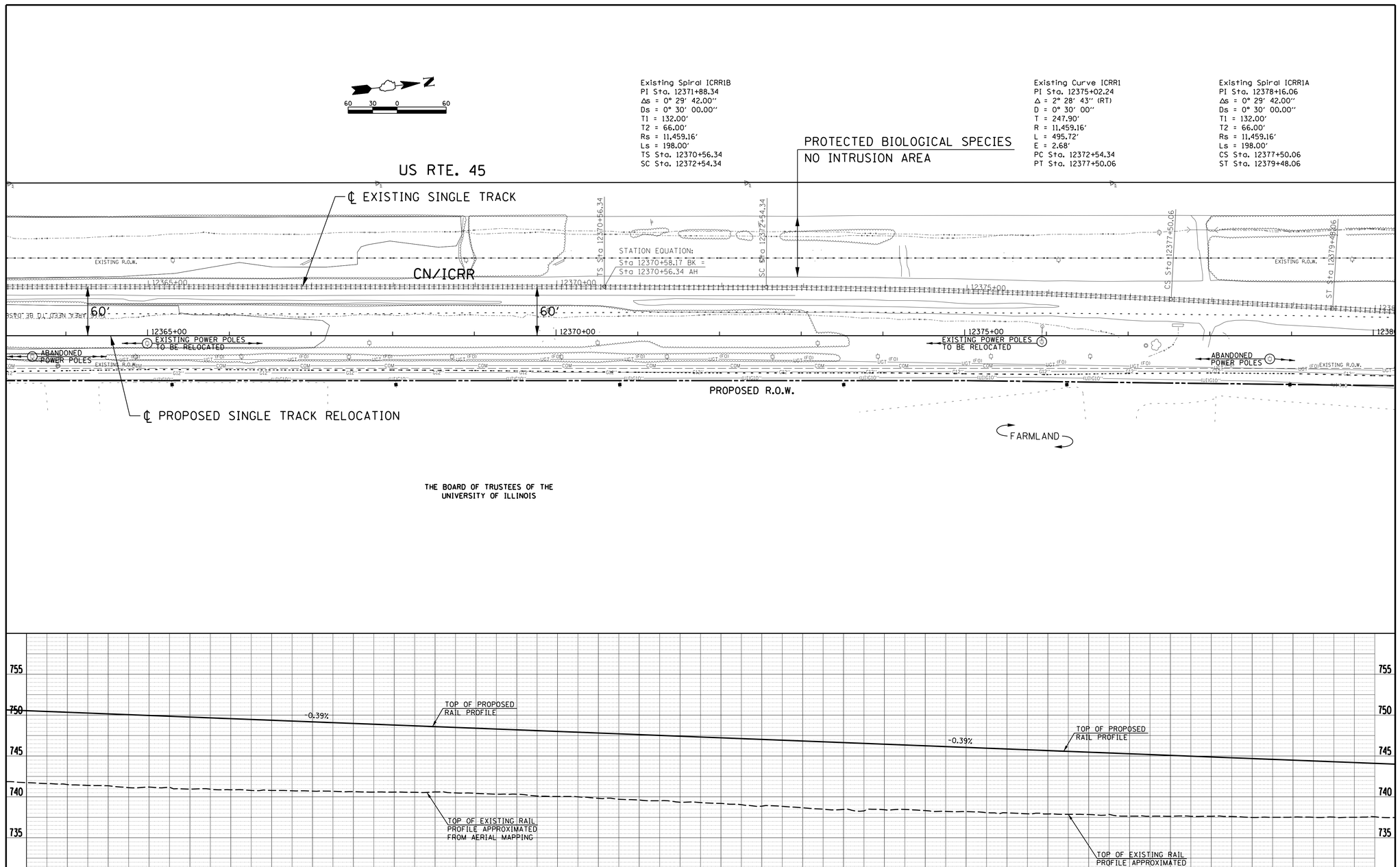


PROPOSED TYPICAL SECTION - CN/ICRR
CN/ICRR EMBANKMENT SECTION
STA. 12339+00 TO STA. 12389+50±
NO SCALE



PROPOSED RIGHT–OF–WAY ACQUISITION – CN / ICRR

EXHIBIT 24



PROPOSED RIGHT–OF–WAY ACQUISITION – CN / ICRR

EXHIBIT 25

Existing Spiral ICRR2B
PI Sta. 12381+80.06
Δs = 0° 29' 42.00"
Ds = 0° 30' 00.00"
T1 = 132.00'
T2 = 66.00'
Rs = 11,459.16'
Ls = 198.00'
TS Sta. 12380+48.06
SC Sta. 12382+46.06

Existing Curve ICRR2
PI Sta. 12384+93.96
Δ = 2° 28' 43" (LT)
D = 0° 30' 00"
T = 247.90'
R = 11,459.16'
L = 495.72'
E = 2.68'
PC Sta. 12382+46.06
PT Sta. 12387+41.78

Existing Spiral ICRR2A
PI Sta. 12388+07.78
Δs = 0° 29' 42.00"
Ds = 0° 30' 00.00"
T1 = 132.00'
T2 = 66.00'
Rs = 11,459.16'
Ls = 198.00'
CS Sta. 12387+41.78
ST Sta. 12389+39.78

PROTECTED BIOLOGICAL SPECIES
NO INTRUSION AREA

US RTE. 45

NO INTRUSION AREA

℄ EXISTING SINGLE TRACK

TS Sta 12380+48.06
SC Sta 12382+46.06
CS Sta 12387+41.78
ST Sta 12389+39.78
POT Sta 12392+22.78
POT Sta 12392+24.21

EXISTING R.O.W.

CN/ICRR

WINDSOR ROAD

ABANDONED POWER POLES

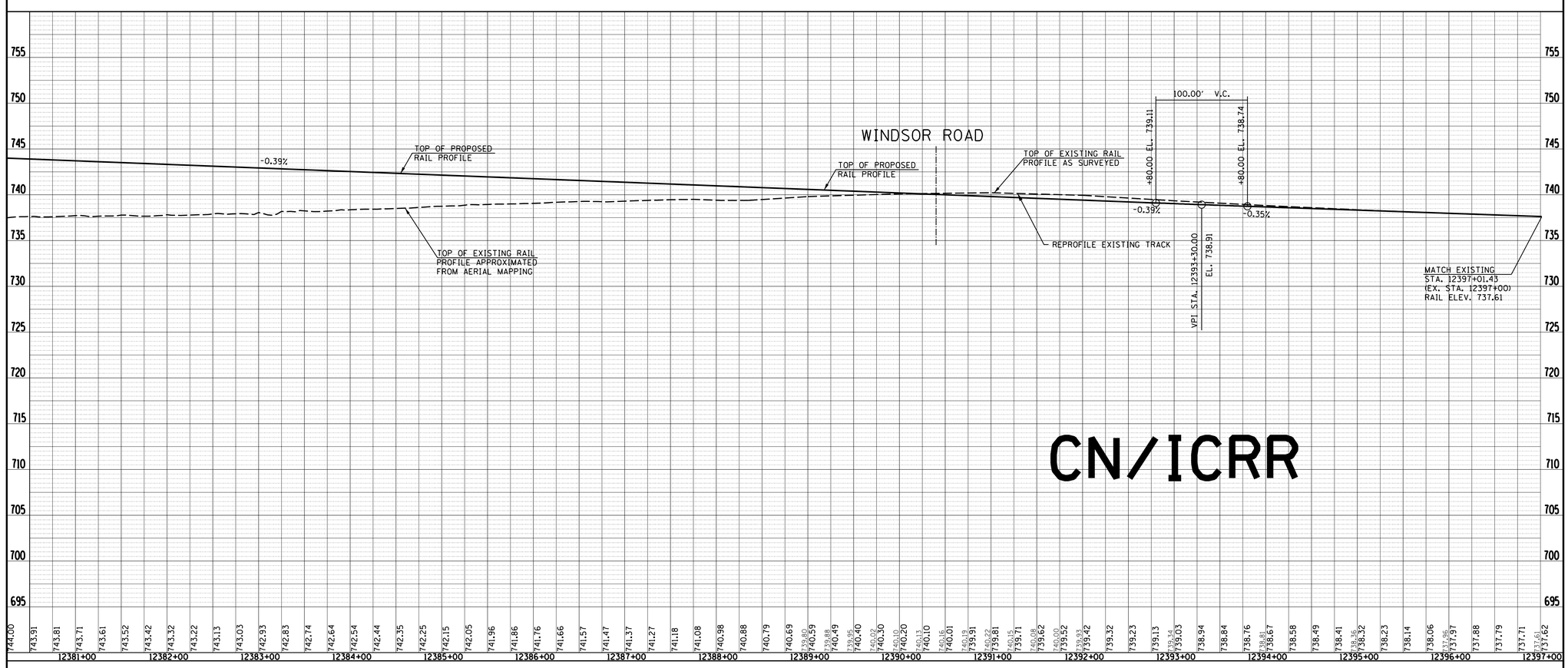
PROPOSED R.O.W.

℄ PROPOSED SINGLE TRACK RELOCATION

EXISTING DUAL TRACK BRIDGE OVER WINDSOR ROAD

℄ WINDSOR ROAD
STA. 12390+40

THE BOARD OF TRUSTEES OF THE
UNIVERSITY OF ILLINOIS

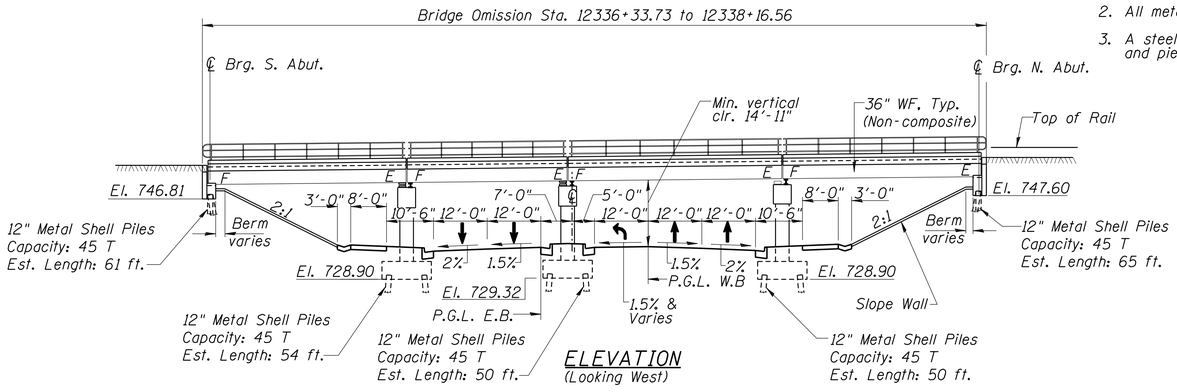


PROTECTED BIOLOGICAL SPECIES
NO INTRUSION AREA
US RTE. 45
NO INTRUSION AREA
℄ EXISTING SINGLE TRACK
EXISTING R.O.W.
CN/ICRR
WINDSOR ROAD
EXISTING DUAL TRACK BRIDGE OVER WINDSOR ROAD
℄ WINDSOR ROAD
STA. 12390+40
PROPOSED R.O.W.
℄ PROPOSED SINGLE TRACK RELOCATION
THE BOARD OF TRUSTEES OF THE
UNIVERSITY OF ILLINOIS

PROPOSED RIGHT–OF–WAY ACQUISITION – CN / ICRR

EXHIBIT 26

Bench Mark: BM D185 from State Circuit: Elev. 739.61, USGS disk at the southwest quadrant of U.S. Rt. 45 and Curtis Road. The disk is on a concrete foundation on the east side of the F.A.S.S. Building, north of concrete steps to F.A.S.S.'s front entrance.

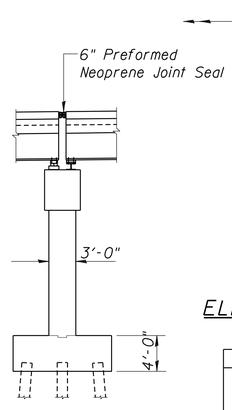


NOTES:

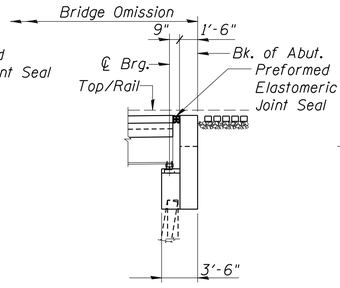
1. The number of piles, pile rows, batter of piles and bearing seat widths will be determined during final design.
2. All metal piles shall have 60° conical pile points.
3. A steel plate will be provided over the gaps at the abutments and piers. The plate will be under the waterproofing system.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 807	*	CHAMPAIGN	1	1
		ILLINOIS	FED. AID PROJECT-M-5181(036)	

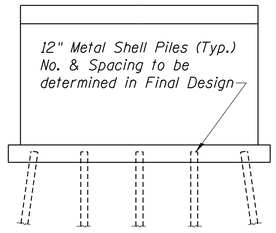
*00-00374-00-ES



ELEVATION AT PIER
(At right angles)

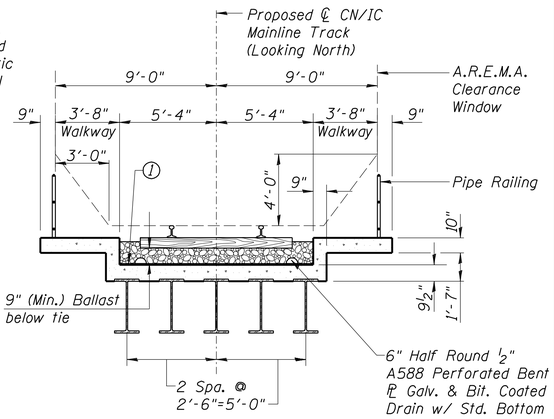


ELEVATION AT ABUTMENT



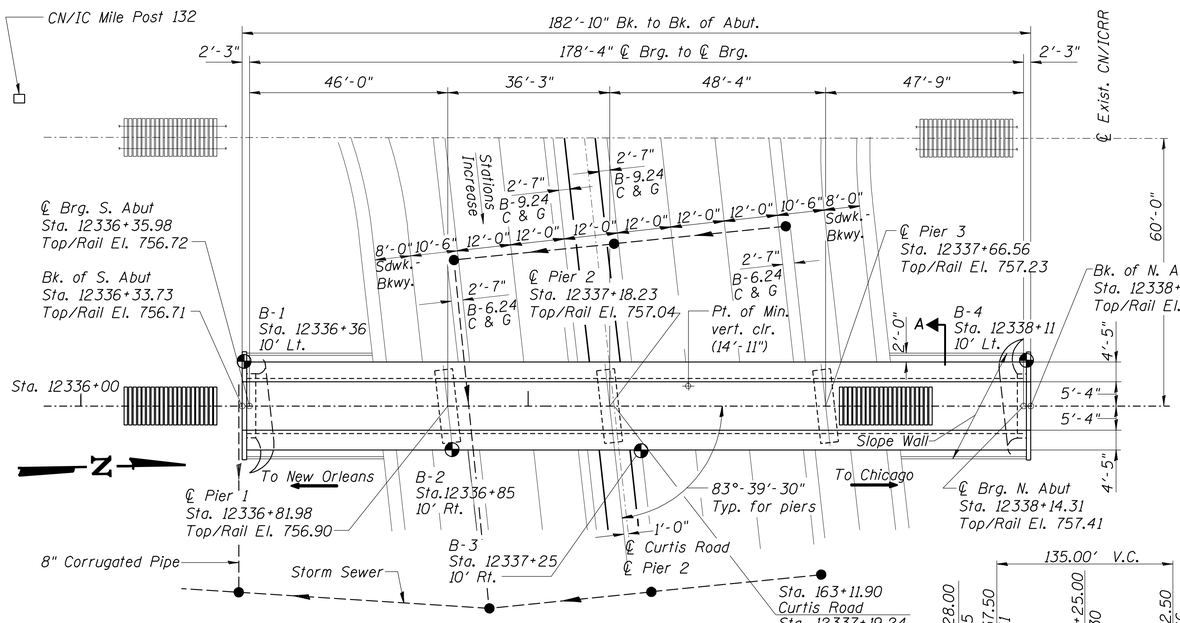
PIER SKETCH

① Waterproofing system shall be $\frac{3}{32}$" butyl rubber membrane under 1" asphalt planks.

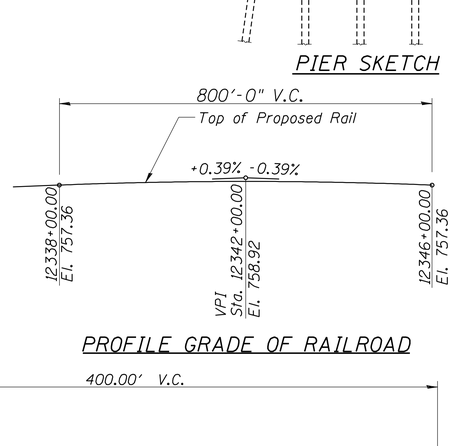


Note: Deck Drains must drain to Storm Sewers.

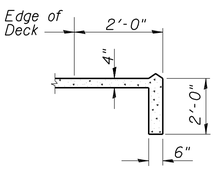
TYPICAL CROSS SECTION



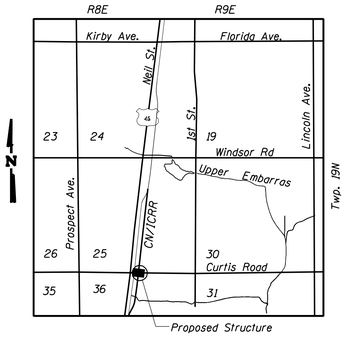
PLAN



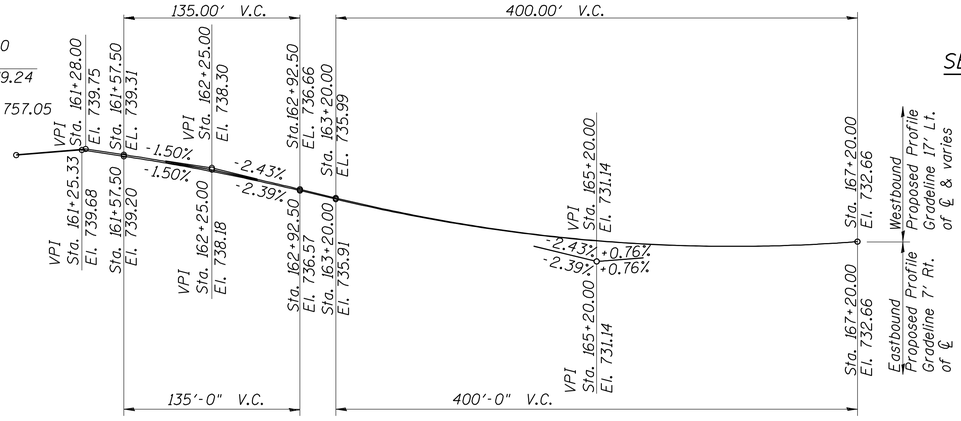
PROFILE GRADE OF RAILROAD



SECTION A



LOCATION SKETCH



PROFILE GRADES OF CURTIS ROAD

DESIGN SPECIFICATIONS

American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering, 2002.

LOADING

LIVE LOAD, Cooper E80 Plus Diesel Impact for Equipment with hammer blow, Service Load Design

DEAD LOAD, Includes additional 12" of future ballast

DEFLECTION

Maximum live load + impact: 1/640 of span.

SEISMIC DATA

Seismic Performance Category (S.P.C.) = A
Bedrock Acceleration Coefficient (A)=0.0475g
Site Coefficient (S)= 1.0

DESIGN STRESSES

f'c = 3,500 P.S.I.
fy = 60,000 P.S.I. (Reinforcement)
fy = 50,000 P.S.I. (Struct) (M270 Gr. 50)

HIGHWAY CLASSIFICATION

CURTIS ROAD

Functional Class: Urban Other Principal Arterial
DHV: 995 (2006)
ADT: 8,500 (2026)
Design Speed: 45 mph

CN/IC

Class I Railroad
ADT: 4 Passenger Trains & 26 Freight Trains per day
Design Speed: 80 MPH

GENERAL PLAN
CN/IC OVER CURTIS ROAD

F.A.P. ROUTE 807 SEC. 00-00374-00-ES
CHAMPAIGN COUNTY STA. 12337+25.15
STRUCTURE NUMBER_____

CDI CLARK DIETZ, INC.

CHAMPAIGN, ILLINOIS CHICAGO, ILLINOIS EVANSVILLE, INDIANA INDIANAPOLIS, INDIANA KENOSHA, WISCONSIN

REVISIONS	
NAME	DATE
Per CN/IC	11-20-02

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DESIGNED BY: S.L.D. PROJECT NO: C3041
DRAWN BY: M.E.W. DATE: 7-2002
CHECKED BY: M.M.
APPROVED BY:
ACTIVITY INITIALS

DRAWING NUMBER
S-1

CN / IC RAILROAD BRIDGE OVER CURTIS ROAD

EXHIBIT 27

CAPACITY DESIGN STUDY

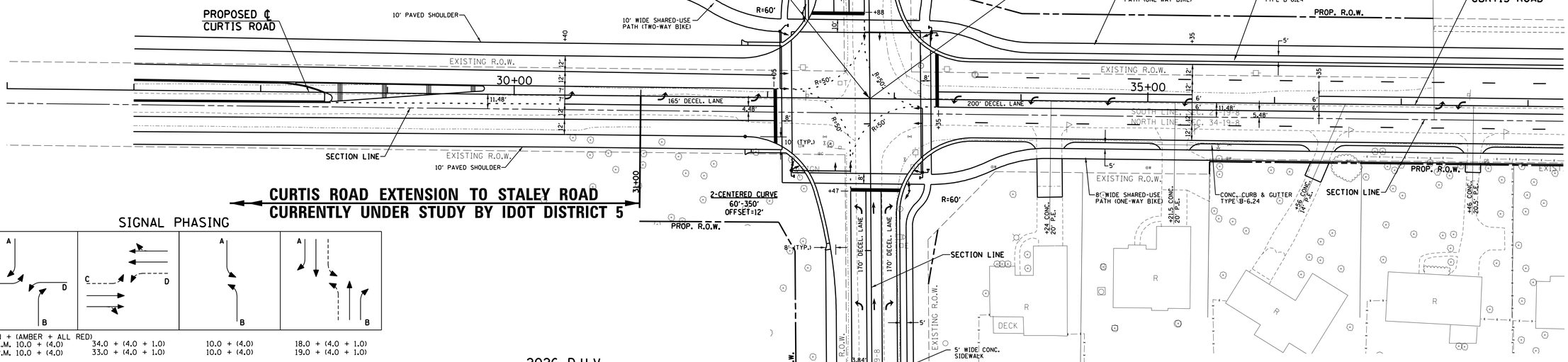
4 PHASE — AREA OTHER — PEAK HOUR FACTOR 0.95

90 SEC. CYCLE — AVERAGE INTERSECTION DELAY — A.M. 22.7 SEC. — INTERSECTION LEVEL OF SERVICE — A.M. C

SIGNAL TYPE FULLY ACTUATED — PROGRAM USED HCS/SIGNALS 2000 REL 4.1b — P.M. 24.0 SEC. — P.M. C

APPROACH		A			B			C			D	
BUS STOP CONDITION			--			--			--			--
PARKING MANEUVER/HR.			--			--			--			--
PEDESTRIANS			50			50			50			50
ARRIVAL TYPE		3	3	3	3	3	3	3	3		3	3
LANE UTILIZATION FACTOR		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95
BASE SATURATION FLOW		1900	1900	1900	1900	1900	1900	1900	1900		1900	1900
D-DISTANCE		130′		110′	158′		70′	83′			53′	
LANE GROUP		L	T	R	L	T	R	L	TR		L	TR
LANE WIDTHS		12′	12′	12′	12′	12′	12′	14′	2@12′		14′	2@12′
GREEN TIME (SECONDS)	A.M.	10.0/18.0	18.0	28.0	10.0/18.0	18.0	28.0	10.0/34.0	34.0		10.0/34.0	34.0
	P.M.	10.0/19.0	19.0	29.0	10.0/19.0	19.0	29.0	10.0/33.0	33.0		10.0/33.0	33.0
LANE GROUP DELAY (SECONDS)	A.M.	21.7	31.8	19.9	22.1	34.8	19.2	11.6	21.2		11.0	21.7
	P.M.	21.2	34.3	18.7	20.7	32.5	18.1	13.3	24.1		12.7	23.9
LEVEL OF SERVICE	A.M.	C	C	B	C	C	B	B	C		B	C
	P.M.	C	C	B	C	C	B	B	C		B	C
V/C RATIO	A.M.	0.39	0.38	0.23	0.47	0.58	0.14	0.21	0.45		0.10	0.49
	P.M.	0.42	0.59	0.17	0.34	0.51	0.08	0.34	0.61		0.22	0.60
2026 30TH MAX. HOUR TRAFFIC	A.M.	130	135	125	180	205	80	90	560		45	600
	P.M.	150	220	90	115	190	45	125	715		80	705
2006 8TH MAX. HOUR TRAFFIC	A.M.		121			116			165			201
	P.M.		149			91			173			250

D-DISTANCE = $\frac{(1-G/C)(DHV)(1+\%\ TRUCKS)(50)}{(NO.\ CYCLES\ PER\ HOUR)(NO.\ OF\ LANES)}$ PROT./PERM.



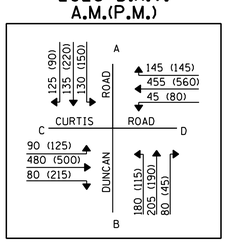
SIGNAL PHASING

GREEN + (AMBER + ALL RED)			
A.M.	10.0 + (4.0)	34.0 + (4.0 + 1.0)	10.0 + (4.0)	18.0 + (4.0 + 1.0)
P.M.	10.0 + (4.0)	33.0 + (4.0 + 1.0)	10.0 + (4.0)	19.0 + (4.0 + 1.0)

TRAFFIC DATA

MOVEMENT	YEAR 2006 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR	EST. PERCENT INCREASE BY		YEAR 30TH MAXIMUM HOUR TRAFFIC		EST. PERCENT INCREASE BY		YEAR 2026 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AB	90	135	2							135	220
BA	145	120	2							205	190
AC	30	25	2							125	90
CA	25	30	2							90	125
AD	100	110	2							130	150
DA	120	90	2							145	145
BC	25	20	2							180	115
CB	15	25	2							80	215
BD	40	25	2							80	45
DB	25	40	2							45	80
CD	260	260	2							480	500
DC	220	325	2	2006 ADT				2026 ADT		455	560
TOTAL A	510	510		4500				8500		830	920
TOTAL B	340	365		3250				7500		725	865
TOTAL C	575	685		6000				14500		1410	1605
TOTAL D	765	850		7800				13500		1335	1480

2026 D.H.V. A.M.(P.M.)



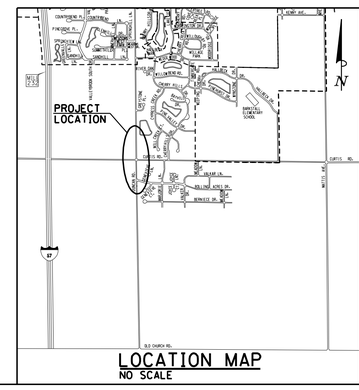
PEAK HOUR VOLUMES A.M.(P.M.)

ELEMENTS CONTROLLING DESIGN

1. DESIGN DESIGNATION: FAP ROUTE 807 (CURTIS ROAD) - OTHER PRINCIPAL ARTERIAL - 14,500 ADT (2026) WITH FAU ROUTE 7155 (DUNCAN ROAD) - COLLECTOR - 8,500 ADT (2026)
2. FAP ROUTE 807 (CURTIS ROAD) IS THE PREFERENCE ROUTE
3. ANTICIPATED YEAR OF CONSTRUCTION: 2006
4. TRAFFIC CONTROL TO BE FULLY ACTUATED SIGNALS (MEETS WARRANTS #1 & #3)
5. POSTED AND DESIGN SPEED: 35 MPH/45 MPH
6. DESIGN VEHICLE: WB-65

GENERAL NOTES

1. PROFILES ARE PROVIDED FOR CURTIS ROAD AND DUNCAN ROAD ON SHEET 2.
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT.
3. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT/LANE LINES.
4. R.O.W., SIGNAL LOCATIONS, SIDEWALKS, AND ENTRANCE LOCATIONS ARE SUBJECT TO REVISION DURING PREPARATION OF FINAL PLANS.
5. ENTRANCES SHALL CONFORM TO POLICY ON "ACCESS TO STATE HIGHWAYS."
6. CURBS WILL BE DEPRESSED AT CROSSWALKS TO ALLOW HANDICAP ACCESS.
7. ALL PAVEMENT MARKING SHALL BE PREFORMED PLASTIC.
8. TURNING MOVEMENTS CHECKED WITH AUTOTURN.
9. RADII ALONG SHARED-USE PATH IS 90′ MIN.



LOCATION MAP
NO SCALE

DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)

WITH

FAU ROUTE 7155 (DUNCAN ROAD)

SEC. NO. 00-00374-00-ES PROJ. NO. _____

SCALE: 1″ = 40′ COUNTY CHAMPAIGN

SJN : _____ REV. NO. ___

DESIGNED BY: CLARK DIETZ, INC. DATE: 2-04

SATISFACTORY _____ COUNTY ENGINEER DATE

SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER DATE

SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER DATE

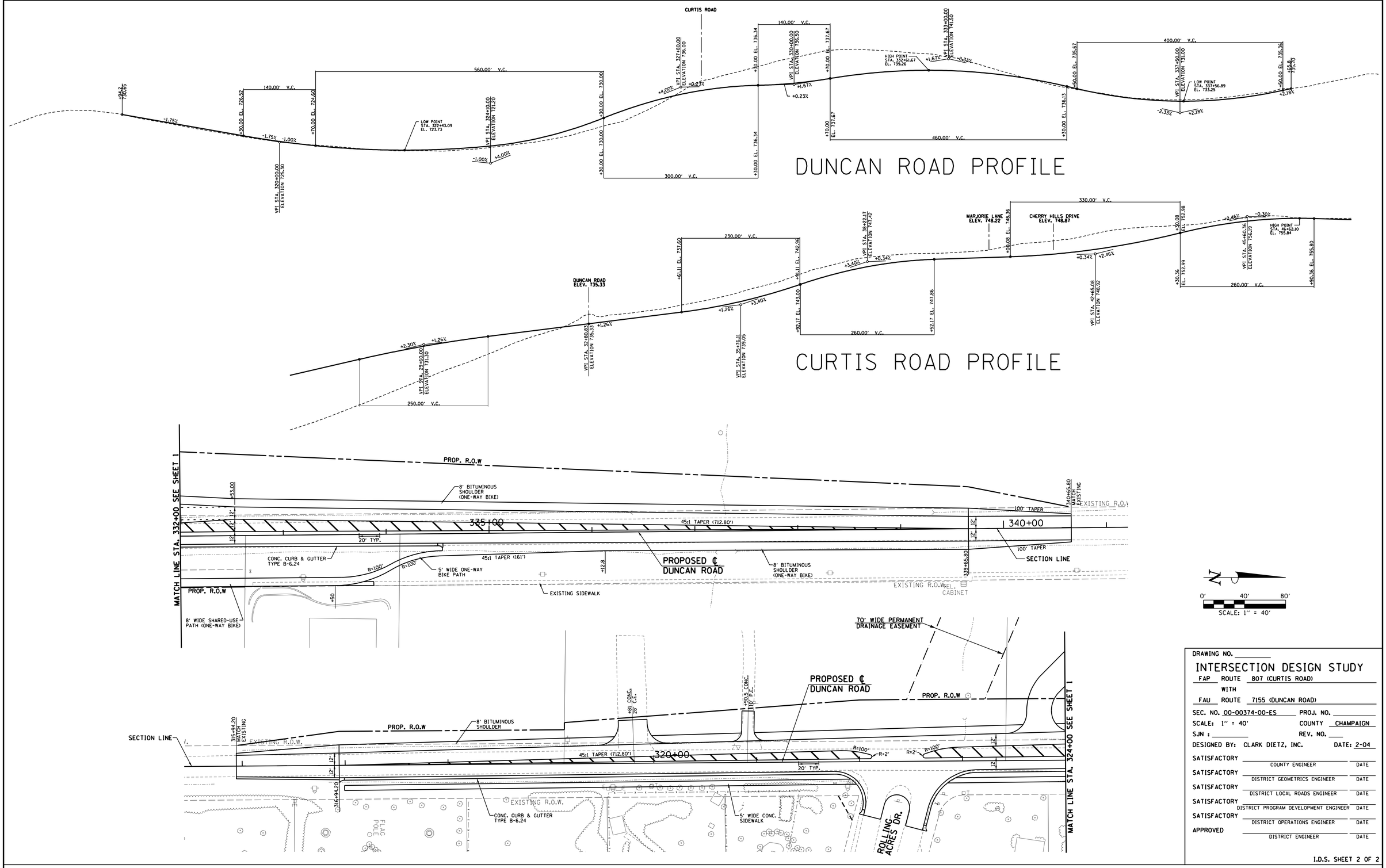
SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE

SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER DATE

APPROVED _____ DISTRICT ENGINEER DATE

I.D.S. SHEET 1 OF 2

INTERSECTION DESIGN STUDIES (FULL BUILD) EXHIBIT 28



DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)
WITH
FAU ROUTE 7155 (DUNCAN ROAD)

SEC. NO. 00-00374-00-ES PROJ. NO. _____
SCALE: 1" = 40' COUNTY CHAMPAIGN
SJN : _____ REV. NO. ___
DESIGNED BY: CLARK DIETZ, INC. DATE: 2-04

SATISFACTORY _____ COUNTY ENGINEER DATE
SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER DATE
SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER DATE
SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE
SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER DATE
APPROVED _____ DISTRICT ENGINEER DATE

I.D.S. SHEET 2 OF 2

INTERSECTION DESIGN STUDIES (FULL BUILD)

EXHIBIT 29

CAPACITY DESIGN STUDY

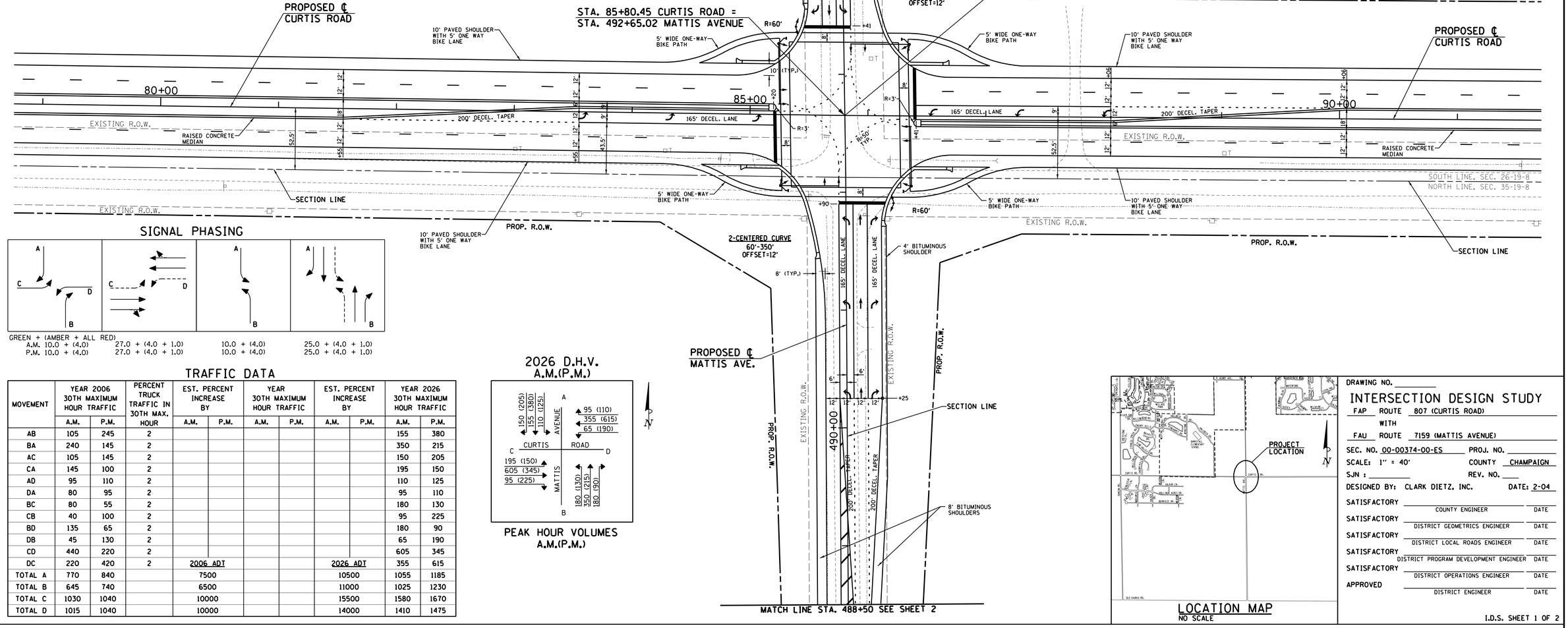
4 PHASE — AREA OTHER — PEAK HOUR FACTOR 0.95

90 SEC. CYCLE — AVERAGE INTERSECTION DELAY — A.M. 25.0 SEC. — INTERSECTION LEVEL OF SERVICE — A.M. C

SIGNAL TYPE FULLY ACTUATED — PROGRAM USED HCS/SIGNALS 2000 REL 4.1b — P.M. 26.8 SEC. — P.M. C

APPROACH		A			B			C			D		
BUS STOP CONDITION			--			--			--			--	
PARKING MANEUVER/HR.			--			--			--			--	
PEDESTRIANS			50			50			50			50	
ARRIVAL TYPE		3	3	3	3	3	3	3	3		3	3	
LANE UTILIZATION FACTOR		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
BASE SATURATION FLOW		1900	1900	1900	1900	1900	1900	1900	1900		1900	1900	
D-DISTANCE		97'		160'	140'		140'	146'			143'		
LANE GROUP		L	T	R	L	T	R	L	TR		L	TR	
LANE WIDTHS		12'	12'	12'	12'	12'	12'	12'	2@12'		12'	2@12'	
GREEN TIME (SECONDS)	A.M.	10.0/27.0	27.0	37.0	10.0/27.0	27.0	37.0	10.0/25.0	25.0		10.0/25.0	25.0	
	P.M.	10.0/27.0	27.0	37.0	10.0/27.0	27.0	37.0	10.0/25.0	25.0		10.0/25.0	25.0	
LANE GROUP DELAY (SECONDS)	A.M.	17.9	26.1	15.6	17.0	33.8	16.0	17.0	30.3		16.1	25.9	
	P.M.	16.6	37.0	16.5	18.9	27.3	14.9	18.8	28.3		18.5	31.4	
LEVEL OF SERVICE	A.M.	B	C	B	B	C	B	B	C		B	C	
	P.M.	B	D	B	B	C	B	B	C		B	C	
V/C RATIO	A.M.	0.35	0.31	0.22	0.38	0.71	0.27	0.51	0.71		0.22	0.46	
	P.M.	0.30	0.77	0.32	0.44	0.44	0.14	0.52	0.62		0.56	0.74	
2026 30TH MAX. HOUR TRAFFIC	A.M.	110	155	150	180	350	180	195	700		65	450	
	P.M.	125	380	205	130	215	90	150	570		190	725	
2006 8TH MAX. HOUR TRAFFIC	A.M.		168			250			344			190	
	P.M.		275			146			231			355	

D-DISTANCE = $\frac{(1-G/C)(DHV)(1+\%\ TRUCKS)(50)}{(NO.\ CYCLES\ PER\ HOUR)(NO.\ OF\ LANES)}$



ELEMENTS CONTROLLING DESIGN

1. DESIGN DESIGNATION: FAP ROUTE 807 (CURTIS ROAD) - OTHER PRINCIPAL ARTERIAL - 15,500 ADT (2026)
   WITH FAU ROUTE 7159 (MATTIS AVENUE) -
   NORTH LEG MINOR ARTERIAL - 10,500 ADT (2026)
   SOUTH LEG LOCAL STREET - 11,000 ADT (2026)
2. FAP ROUTE 807 (CURTIS ROAD) IS THE PREFERENCE ROUTE
3. ANTICIPATED YEAR OF CONSTRUCTION: 2006
4. TRAFFIC CONTROL TO BE FULLY ACTUATED SIGNALS (MEETS WARRANTS #1 & #3)
5. POSTED AND DESIGN SPEED: 35 MPH/45 MPH
6. DESIGN VEHICLE: WB-65

GENERAL NOTES

1. PROFILES ARE NOT PROVIDED, SINCE APPROACH GRADES ARE LESS THAN 1%.
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT.
3. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT/LANE LINES.
4. R.O.W., SIGNAL LOCATIONS, SIDEWALKS, AND ENTRANCE LOCATIONS ARE SUBJECT TO REVISION DURING PREPARATION OF FINAL PLANS.
5. ENTRANCES SHALL CONFORM TO POLICY ON "ACCESS TO STATE HIGHWAYS."
6. CURBS WILL BE DEPRESSED AT CROSSWALKS TO ALLOW HANDICAP ACCESS.
7. ALL PAVEMENT MARKING SHALL BE PREFORMED PLASTIC.
8. TURNING MOVEMENTS CHECKED WITH AUTOTURN.
9. RADII ALONG BIKE PATH IS 90' MIN.

SIGNAL PHASING

GREEN + (AMBER + ALL RED)

A.M.	10.0 + (4.0)	27.0 + (4.0 + 1.0)	10.0 + (4.0)	25.0 + (4.0 + 1.0)
P.M.	10.0 + (4.0)	27.0 + (4.0 + 1.0)	10.0 + (4.0)	25.0 + (4.0 + 1.0)

TRAFFIC DATA

MOVEMENT	YEAR 2006 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR	EST. PERCENT INCREASE BY		YEAR 30TH MAXIMUM HOUR TRAFFIC		EST. PERCENT INCREASE BY		YEAR 2026 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AB	105	245	2							155	380
BA	240	145	2							350	215
AC	105	145	2							150	205
CA	145	100	2							195	150
AD	95	110	2							110	125
DA	80	95	2							95	110
BC	80	55	2							180	130
CB	40	100	2							95	225
BD	135	65	2							180	90
DB	45	130	2							65	190
CD	440	220	2							605	345
DC	220	420	2	2006 ADT				2026 ADT		355	615
TOTAL A	770	840		7500				10500		1055	1185
TOTAL B	645	740		6500				11000		1025	1230
TOTAL C	1030	1040		10000				15500		1580	1670
TOTAL D	1015	1040		10000				14000		1410	1475

2026 D.H.V. A.M.(P.M.)

PEAK HOUR VOLUMES
A.M.(P.M.)

LOCATION MAP
NO SCALE

DRAWING NO. _____

INTERSECTION DESIGN STUDY

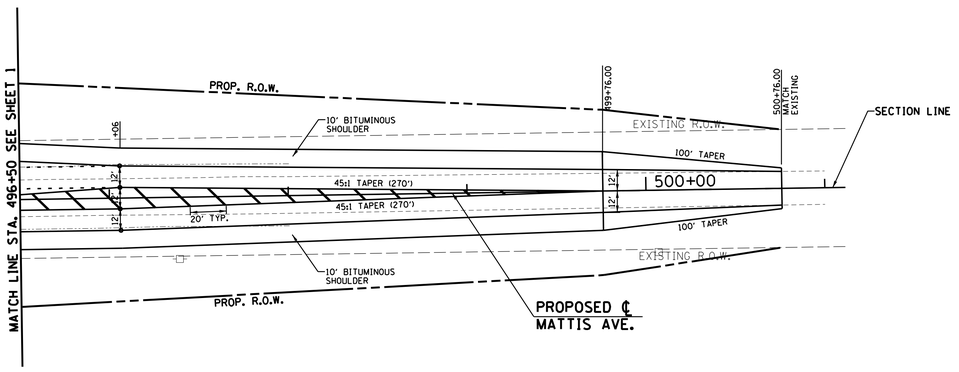
FAP ROUTE 807 (CURTIS ROAD)
WITH
FAU ROUTE 7159 (MATTIS AVENUE)

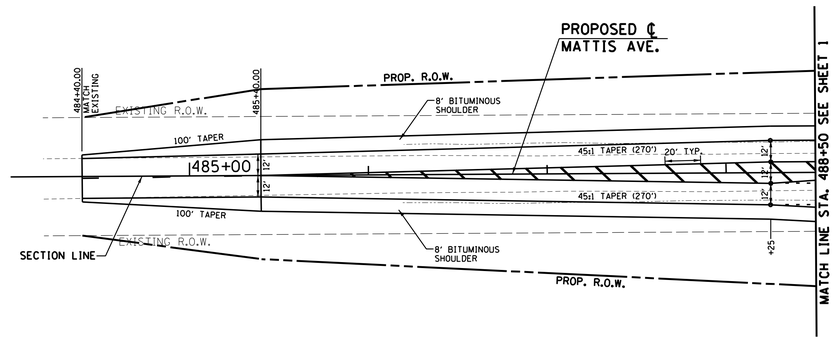
SEC. NO. 00-00374-00-ES — PROJ. NO. _____
SCALE: 1" = 40' — COUNTY CHAMPAIGN
SJN : _____ — REV. NO. ___
DESIGNED BY: CLARK DIETZ, INC. — DATE: 2-04

SATISFACTORY _____ COUNTY ENGINEER — DATE
SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER — DATE
SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER — DATE
SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER — DATE
SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER — DATE
APPROVED _____ DISTRICT ENGINEER — DATE

I.D.S. SHEET 1 OF 2

INTERSECTION DESIGN STUDIES (FULL BUILD) EXHIBIT 30





DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)

WITH

FAU ROUTE 7159 (MATTIS AVENUE)

SEC. NO. 00-00374-00-ES PROJ. NO. _____

SCALE: 1" = 40' COUNTY CHAMPAIGN

SJN : _____ REV. NO. ___

DESIGNED BY: CLARK DIETZ, INC. DATE: 2-04

SATISFACTORY _____ COUNTY ENGINEER _____ DATE

SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER _____ DATE

SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER _____ DATE

SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER _____ DATE

SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER _____ DATE

APPROVED _____ DISTRICT ENGINEER _____ DATE

I.D.S. SHEET 2 OF 2

INTERSECTION DESIGN STUDIES (FULL BUILD) EXHIBIT 31

CAPACITY DESIGN STUDY

3/2 PHASE — AREA OTHER — PEAK HOUR FACTOR 0.95

90 SEC. CYCLE — AVERAGE INTERSECTION DELAY — A.M. 13.4 SEC. — INTERSECTION LEVEL OF SERVICE — A.M. B

SIGNAL TYPE FULLY ACTUATED — PROGRAM USED HCS/SIGNALS 2000 REL 4.1d — P.M. 14.1 SEC. — P.M. B

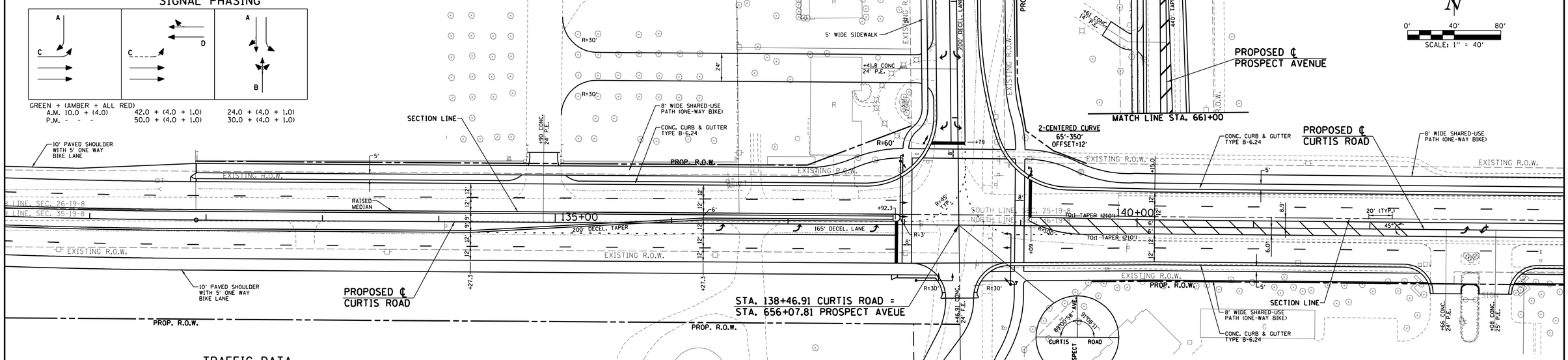
APPROACH		A		B		C		D	
BUS STOP CONDITION			---				--		--
PARKING MANEUVER/HR.			---				--		--
PEDESTRIANS			50		50		50		50
ARRIVAL TYPE		3	3	3		3	3		3
LANE UTILIZATION FACTOR		1.00	0.95	1.00		1.00	0.95		0.95
BASE SATURATION FLOW		1900	1900	1900		1900	1900		1900
D-DISTANCE		162'	---	---		58'			
LANE GROUP		L	TR	LTR		L	TR		TR
LANE WIDTHS		12'	12'	12'		14'	2@12'		2@12'
GREEN TIME (SECONDS)	A.M.	24.0	24.0	24.0		10.0/42.0	42.0		42.0
	P.M.	30.0	30.0	30.0		50.0	50.0		50.0
LANE GROUP DELAY (SECONDS)	A.M.	27.3	25.7	24.4		8.1	8.5		16.1
	P.M.	24.0	21.9	20.1		12.5	10.5		13.1
LEVEL OF SERVICE	A.M.	C	C	C		A	A		B
	P.M.	C	C	C		B	B		B
V/C RATIO	A.M.	0.35	0.19	0.02		0.26	0.37		0.41
	P.M.	0.43	0.24	0.02		0.39	0.26		0.54
2026 30TH MAX. HOUR TRAFFIC	A.M.	125	75	10		120	780		615
	P.M.	190	120	10		80	485		980
2006 8TH MAX. HOUR TRAFFIC	A.M.		91				369		245
	P.M.		146				217		396

D-DISTANCE = (1-G/C)(DHV)(1+% TRUCKS)(50) / (NO. CYCLES PER HOUR)(NO. OF LANES) — PROT./PERM.

SIGNAL PHASING

GREEN + (AMBER + ALL RED)

A.M.	10.0 + (4.0)	42.0 + (4.0 + 1.0)	24.0 + (4.0 + 1.0)
P.M.	- - -	50.0 + (4.0 + 1.0)	30.0 + (4.0 + 1.0)



ELEMENTS CONTROLLING DESIGN

1. DESIGN DESIGNATION:
   FAP ROUTE 807 (CURTIS ROAD) - OTHER PRINCIPAL ARTERIAL - 14,500 ADT (2026)
   WITH FAU ROUTE 7163 (PROSPECT AVE.) - COLLECTOR - 5,100 ADT (2026)
2. FAP ROUTE 807 (CURTIS ROAD) IS THE PREFERENCE ROUTE
3. ANTICIPATED YEAR OF CONSTRUCTION: 2006
4. TRAFFIC CONTROL TO BE FULLY ACTUATED SIGNALS (MEETS WARRANTS #1 & #3)
5. POSTED AND DESIGN SPEED: 35 MPH/45 MPH ON CURTIS ROAD; 35 MPH/40 MPH ON PROSPECT AVE.
6. DESIGN VEHICLE: WB-65

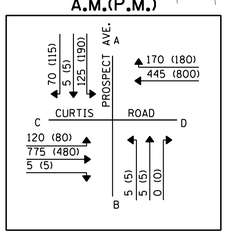
GENERAL NOTES

1. PROFILES ARE NOT PROVIDED, SINCE APPROACH GRADES ARE LESS THAN 1%.
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT.
3. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT/LANE LINES.
4. R.O.W., SIGNAL LOCATIONS, SIDEWALKS, AND ENTRANCE LOCATIONS ARE SUBJECT TO REVISION DURING PREPARATION OF FINAL PLANS.
5. ENTRANCES SHALL CONFORM TO POLICY ON "ACCESS TO STATE HIGHWAYS."
6. CURBS WILL BE DEPRESSED AT CROSSWALKS TO ALLOW HANDICAP ACCESS.
7. ALL PAVEMENT MARKING SHALL BE PREFORMED PLASTIC.
8. TURNING MOVEMENTS CHECKED WITH AUTOTURN.
9. RADII ALONG SHARED-USE PATH IS 90° MIN.

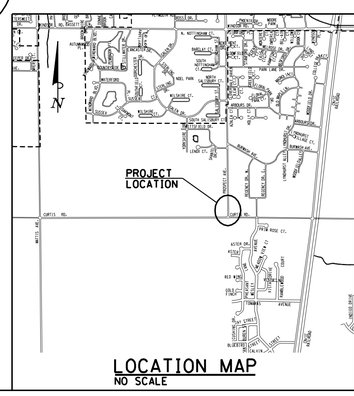
TRAFFIC DATA

MOVEMENT	YEAR 2006 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR	EST. PERCENT INCREASE BY		YEAR 30TH MAXIMUM HOUR TRAFFIC		EST. PERCENT INCREASE BY		YEAR 2026 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AB										5	5
BA										5	5
AC	55	90	2							70	115
CA	90	60	2							120	80
AD	110	175	2							125	190
DA	155	165	2							170	180
BC										5	5
CB										5	5
BD										---	---
DB										---	---
CD	580	335	2							775	480
DC	290	555	2	2006 ADT				2026 ADT		445	800
TOTAL A	410	490		4500				5100		495	575
TOTAL B								40		20	20
TOTAL C	1015	1040		10000				14000		1420	1485
TOTAL D	1135	1230		11500				15000		1515	1650

2026 D.H.V. A.M.(P.M.)



PEAK HOUR VOLUMES A.M.(P.M.)



LOCATION MAP
NO SCALE

DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)
WITH
FAU ROUTE 7163 (PROSPECT AVENUE)

SEC. NO. 00-00374-00-ES — PROJ. NO. _____
SCALE: 1" = 40' — COUNTY CHAMPAIGN
SJN : _____ — REV. NO. ___
DESIGNED BY: CLARK DIETZ, INC. — DATE: 1-04

SATISFACTORY _____ COUNTY ENGINEER DATE
SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER DATE
SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER DATE
SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE
SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER DATE
APPROVED _____ DISTRICT ENGINEER DATE

I.D.S. SHEET 1 OF 1

INTERSECTION DESIGN STUDIES (FULL BUILD) EXHIBIT 32

CAPACITY DESIGN STUDY

4 PHASE — AREA OTHER — PEAK HOUR FACTOR 0.95

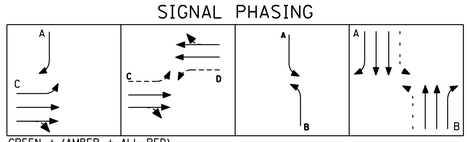
90 SEC. CYCLE — AVERAGE INTERSECTION DELAY — A.M. 30.8 SEC. — INTERSECTION LEVEL OF SERVICE — A.M. C

SIGNAL TYPE FULLY ACTUATED — PROGRAM USED HCS/SIGNALS 2000 REL 4.1d — P.M. 26.3 SEC. — P.M. C

APPROACH		A			B			C			D	
BUS STOP CONDITION			--			--			--			--
PARKING MANEUVER/HR.			--			--			--			--
PEDESTRIANS			50			50			50			50
ARRIVAL TYPE		3	3	3	3	3	3	3	3		3	3
LANE UTILIZATION FACTOR		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95
BASE SATURATION FLOW		1900	1900	1900	1900	1900	1900	1900	1900		1900	1900
D-DISTANCE		121'	--	218'	121'	--	137'	283'	--		98'	--
LANE GROUP		L	T	R	L	T	R	L	TR		L	TR
LANE WIDTHS		12'	2@12'	12'	12'	2@12'	12'	12'	2@12'		12'	2@12'
GREEN TIME (SECONDS)	A.M.	9.0/33.0	33.0	48.0	9.0/33.0	33.0	33.0	15.0/18.0	33.0		18.0	18.0
	P.M.	9.0/35.0	35.0	45.0	9.0/35.0	35.0	35.0	10.0/21.0	31.0		21.0	21.0
LANE GROUP DELAY (SECONDS)	A.M.	19.4	20.5	9.0	13.1	39.1	20.8	51.4	19.1		32.2	36.8
	P.M.	13.2	33.1	13.0	30.0	20.1	17.8	32.7	19.9		32.4	33.5
LEVEL OF SERVICE	A.M.	B	C	A	B	D	C	D	B		C	D
	P.M.	B	C	B	C	C	B	C	B		C	C
V/C RATIO	A.M.	0.49	0.31	0.17	0.37	0.93	0.32	0.94	0.42		0.34	0.70
	P.M.	0.46	0.89	0.48	0.76	0.40	0.13	0.78	0.38		0.52	0.67
2026 30TH MAX. HOUR TRAFFIC	A.M.	120	380	140	165	1145	170	350	550		50	440
	P.M.	185	1160	375	185	520	70	225	445		100	505
2006 8TH MAX. HOUR TRAFFIC	A.M.		286			688			380			223
	P.M.		800			330			281			275

D-DISTANCE = $\frac{(1-G/C)(DHV)(1+\%\ TRUCKS)(50)}{(NO.\ CYCLES\ PER\ HOUR)(NO.\ OF\ LANES)}$ PROT./PERM.

SIGNAL PHASING

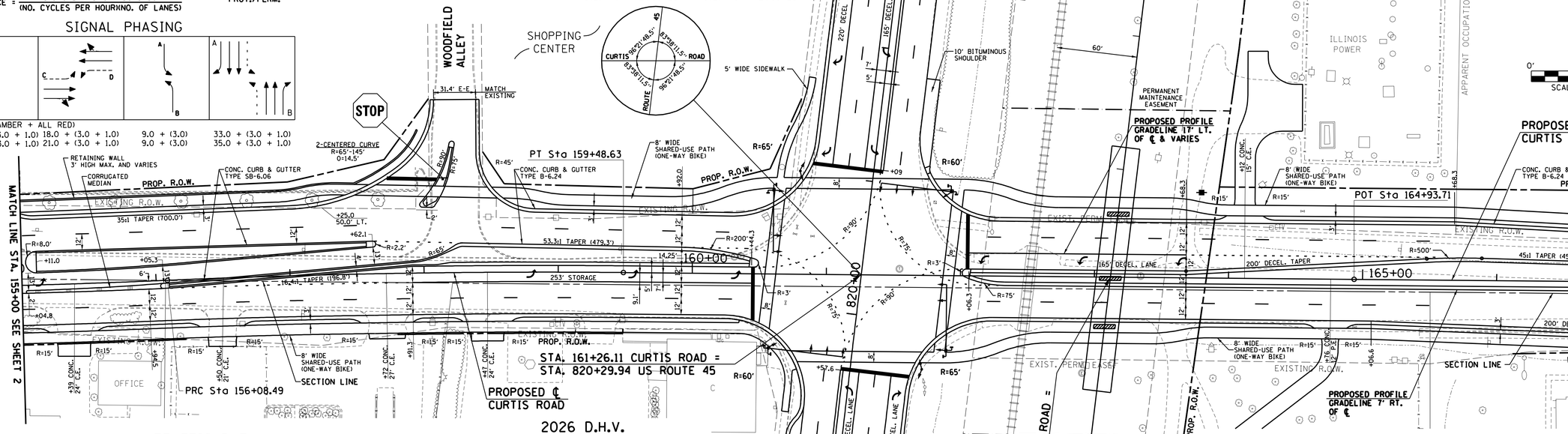


GREEN + (AMBER + ALL RED)

A.M.	15.0 + (3.0 + 1.0)	18.0 + (3.0 + 1.0)	9.0 + (3.0)	33.0 + (3.0 + 1.0)
P.M.	10.0 + (3.0 + 1.0)	21.0 + (3.0 + 1.0)	9.0 + (3.0)	35.0 + (3.0 + 1.0)

Prop. Curve
PI Sta. 154+38.44
Δ = 3° 01' 08" (LT)
D = 0° 53' 15"
T = 170.13'
R = 6,456.68'
L = 340.19'
E = 2.24'
PC Sta. 152+68.30
PRC Sta. 156+08.49
(S.E. NOT REQUIRED)

Prop. Curve
PI Sta. 157+78.60
Δ = 3° 01' 06" (RT)
D = 0° 53' 15"
T = 170.11'
R = 6,456.68'
L = 340.14'
E = 2.24'
PRC Sta. 156+08.49
PT Sta. 159+48.63
(S.E. NOT REQUIRED)



ELEMENTS CONTROLLING DESIGN

1. DESIGN DESIGNATION: CURTIS ROAD FAP ROUTE 807 (WEST) - OTHER PRICIPAL ARTERIAL/
   FAU ROUTE 7147 (EAST) - LOCAL STREET
   WEST LEG - 15,000 ADT (2026)
   EAST LEG - 10,000 ADT (2026)
   WITH FAP ROUTE 804 (US RTE 45/DUNLAP AVENUE)
   - OTHER PRINCIPAL ARTERIAL - 23,500 ADT (2026)
2. FAP ROUTE 804 (US RTE 45/DUNLAP AVENUE) IS THE PREFERENCE ROUTE
3. ANTICIPATED YEAR OF CONSTRUCTION: 2006
4. TRAFFIC CONTROL TO BE FULLY ACTUATED SIGNALS (SIGNAL MODERNIZATION)
5. POSTED AND DESIGN SPEED: 35 MPH/45 MPH ON CURTIS ROAD; 45 MPH/45 MPH ON US RTE 45
6. DESIGN VEHICLE: WB-65
7. FAP ROUTE 804 (US RTE 45) IS A CLASS II TRUCK ROUTE.

GENERAL NOTES

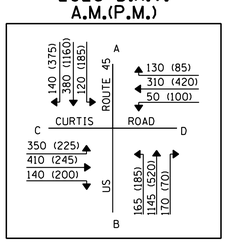
1. PROFILES ARE PROVIDED FOR CURTIS ROAD ON SHEET 2. PROFILES ARE NOT PROVIDED FOR US RTE 45 SINCE APPROACH GRADES ARE LESS THAN 1%.
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT.
3. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT/LANE LINES.
4. R.O.W., SIGNAL LOCATIONS, SIDEWALKS, AND ENTRANCE LOCATIONS ARE SUBJECT TO REVISION DURING PREPARATION OF FINAL PLANS.
5. ENTRANCES SHALL CONFORM TO POLICY ON "ACCESS TO STATE HIGHWAYS."
6. CURBS WILL BE DEPRESSED AT CROSSWALKS TO ALLOW HANDICAP ACCESS.
7. PAVEMENT MARKINGS ARE IN ACCORDANCE WITH DISTRICT POLICY.
8. TURNING MOVEMENTS CHECKED WITH AUTOTURN.
9. RADII ALONG SHARED-USE PATH IS 90' MIN.

N
0' 40' 80'
SCALE: 1" = 40'

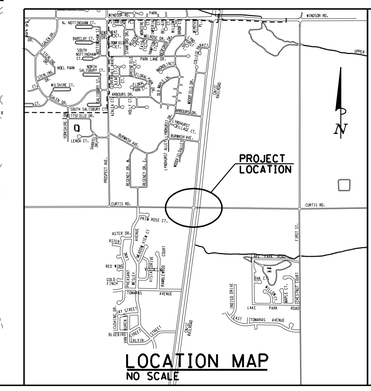
TRAFFIC DATA

MOVEMENT	YEAR 2006 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR	EST. PERCENT INCREASE BY		YEAR 30TH MAXIMUM HOUR TRAFFIC		EST. PERCENT INCREASE BY		YEAR 2026 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AB	330	1010	2							380	1160
BA	995	450	2							1145	520
AC	90	280	2							140	375
CA	270	170	2							350	225
AD	100	165	2							120	185
DA	115	70	2							130	85
BC	105	95	2							165	185
CB	80	140	2							140	200
BD	150	55	2							170	70
DB	40	85	2							50	100
CD	340	200	2							410	245
DC	250	345	2	2006 ADT				2026 ADT		310	420
TOTAL A	1900	2145		20000				23500		2265	2550
TOTAL B	1700	1835		18000				21500		2050	2235
TOTAL C	1135	1230		11500				15000		1515	1650
TOTAL D	995	920		8500				10000		1190	1105

2026 D.H.V.
A.M.(P.M.)



PEAK HOUR VOLUMES
A.M.(P.M.)



LOCATION MAP
NO SCALE

DRAWING NO. _____

INTERSECTION DESIGN STUDY

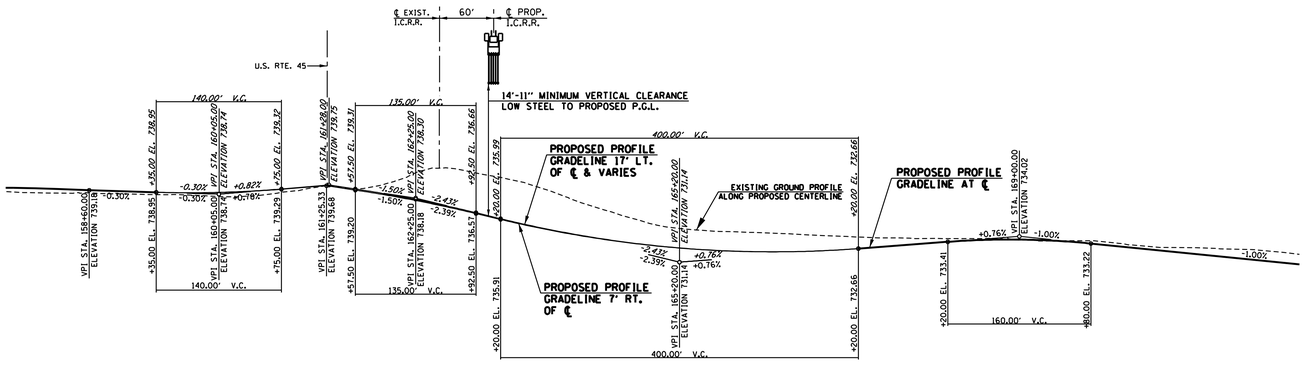
FAP ROUTE 804 (US RTE 45 / DUNLAP AVENUE)
FAP WITH 807 (EAST) -
FAU ROUTE 7147 (WEST) - (CURTIS ROAD)

SEC. NO. 00-00374-00-ES — PROJ. NO. _____
SCALE: 1" = 40' — COUNTY CHAMPAIGN
SJN : _____ — REV. NO. ___
DESIGNED BY: CLARK DIETZ, INC. — DATE: 1-04

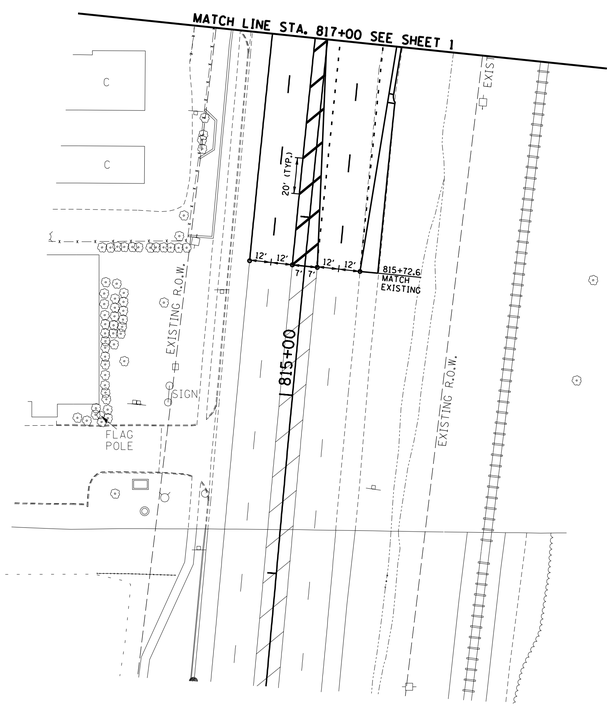
SATISFACTORY	COUNTY ENGINEER	DATE 5/11/04
SATISFACTORY	DISTRICT STUDIES AND PLANS ENGINEER	DATE 5/11/04
SATISFACTORY	DISTRICT LOCAL ROADS ENGINEER	DATE 5/11/04
SATISFACTORY	DISTRICT PROGRAM DEVELOPMENT ENGINEER	DATE 5/11/04
SATISFACTORY	DISTRICT OPERATIONS ENGINEER	DATE 5/11/04
APPROVED	DISTRICT ENGINEER	DATE 5/11/04

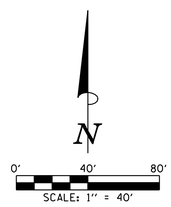
I.D.S. SHEET 1 OF 2

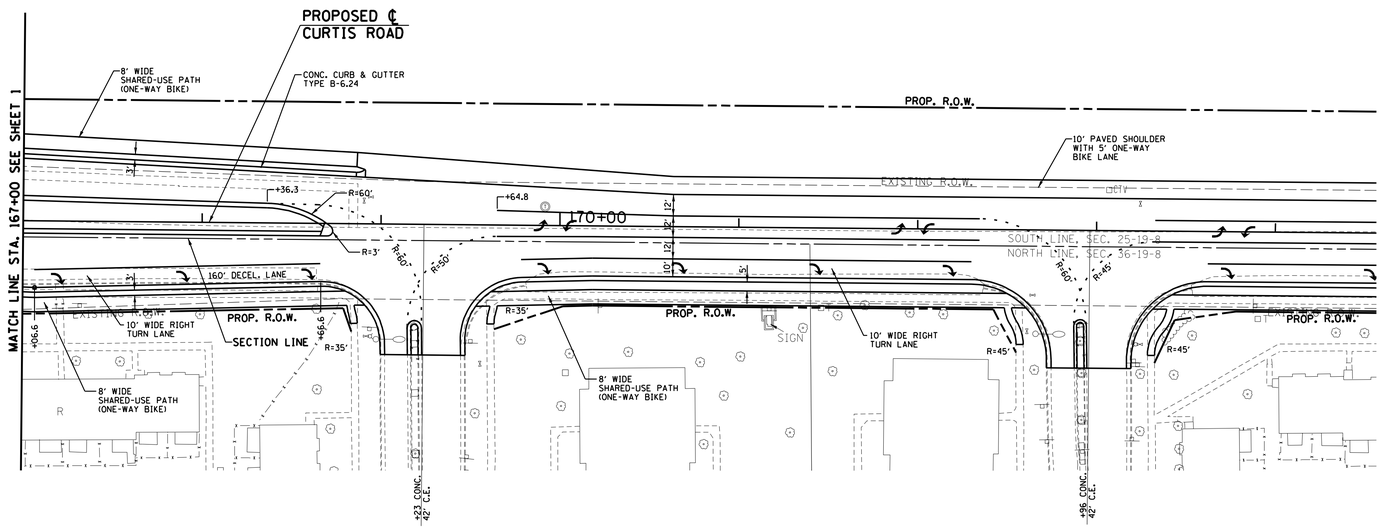
INTERSECTION DESIGN STUDIES (FULL BUILD) EXHIBIT 33



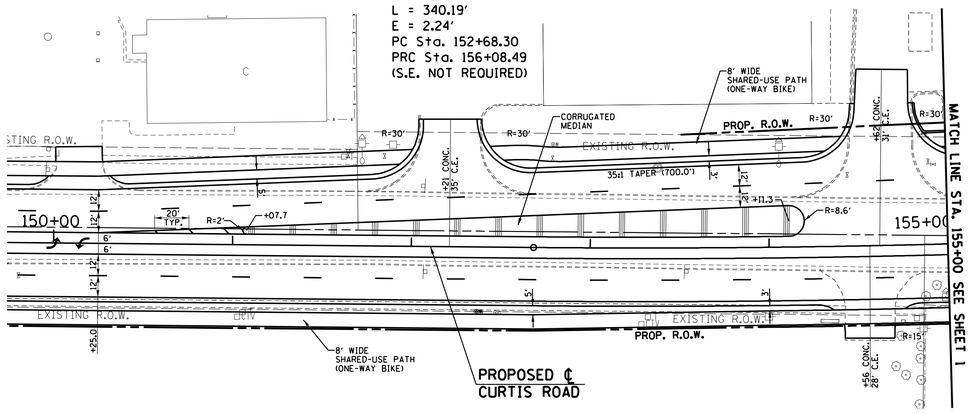
CURTIS ROAD PROFILE







Prop. Curve
PI Sta. 154+38.44
Δ = 3° 01' 08" (LT)
D = 0° 53' 15"
T = 170.13'
R = 6,456.68'
L = 340.19'
E = 2.24'
PC Sta. 152+68.30
PRC Sta. 156+08.49
(S.E. NOT REQUIRED)



DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP	ROUTE	804 (US RTE 45 / DUNLAP AVENUE.)
FAP	WITH	807 (EAST) -
FAU	ROUTE	7147 (WEST) - (CURTIS ROAD)

SEC. NO. 00-00374-00-ES PROJ. NO. _____
SCALE: 1" = 40' COUNTY CHAMPAIGN
SJN : _____ REV. NO. ___
DESIGNED BY: CLARK DIETZ, INC. DATE: 1-04

SATISFACTORY	Dennis L. Unruh (COUNTY ENGINEER)	5/10/04
SATISFACTORY	(DISTRICT STUDIES AND PLANS ENGINEER)	DATE
SATISFACTORY	(DISTRICT LOCAL ROADS ENGINEER)	DATE
SATISFACTORY	(DISTRICT PROGRAM DEVELOPMENT ENGINEER)	5/11/04
SATISFACTORY	(DISTRICT OPERATIONS ENGINEER)	5/11/04
APPROVED	(DISTRICT ENGINEER)	5/11/04

I.D.S. SHEET 2 OF 2

INTERSECTION DESIGN STUDIES (FULL BUILD) EXHIBIT 34

CAPACITY DESIGN STUDY

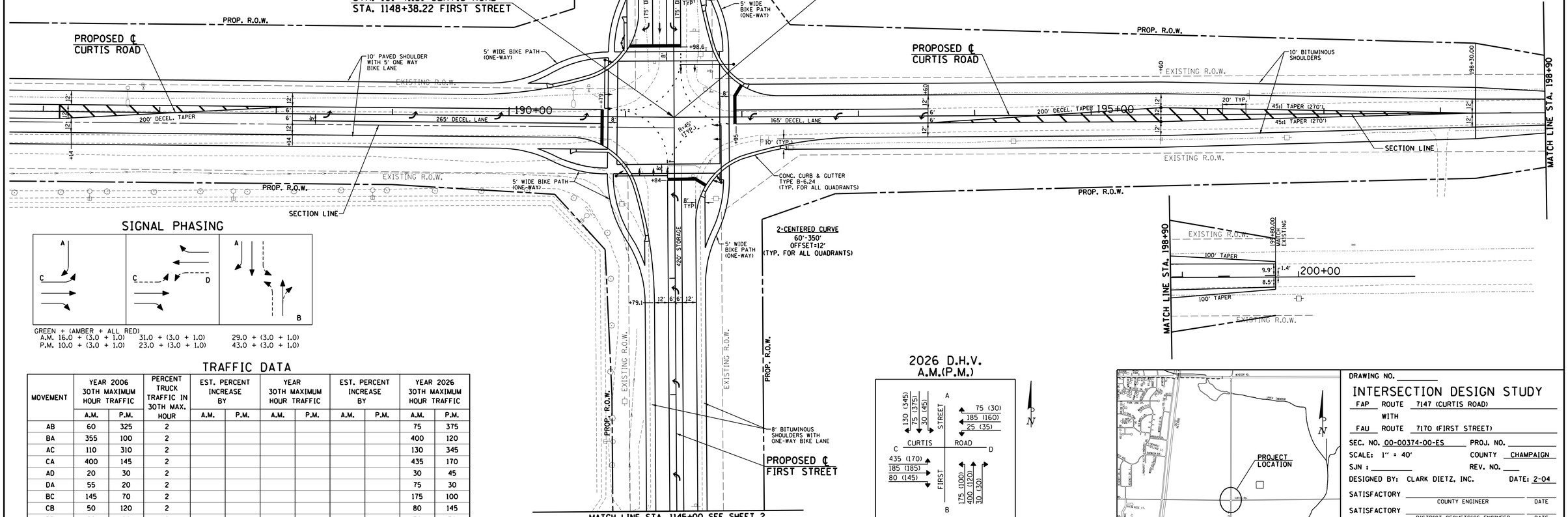
3 PHASE — AREA OTHER — PEAK HOUR FACTOR 0.95

90 SEC. CYCLE — AVERAGE INTERSECTION DELAY — A.M. 20.9 SEC. — INTERSECTION LEVEL OF SERVICE — A.M. C

SIGNAL TYPE FULLY ACTUATED — PROGRAM USED HCS/SIGNALS 2000 REL 4.1b — P.M. 16.5 SEC. — P.M. B

APPROACH		A			B			C			D	
BUS STOP CONDITION			--			--			--			--
PARKING MANEUVER/HR.			--			--			--			--
PEDESTRIANS			--			--			--			--
ARRIVAL TYPE		3	3	3	3	3		3	3		3	3
LANE UTILIZATION FACTOR		1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95
BASE SATURATION FLOW		1900	1900	1900	1900	1900		1900	1900		1900	1900
D-DISTANCE		30'		180'	151'			265'			28'	
LANE GROUP		L	T	R	L	TR		L	TR		L	TR
LANE WIDTHS		12'	12'	12'	12'	12'		14'	12'		14'	12'
GREEN TIME (SECONDS)	A.M.	29.0	29.0	45.0	29.0	29.0		16.0/31.0	47.0		31.0	31.0
	P.M.	43.0	43.0	53.0	43.0	43.0		10.0/23.0	23.0		23.0	23.0
LANE GROUP DELAY (SECONDS)	A.M.	23.2	21.7	9.8	24.8	33.2		15.3	10.2		19.8	23.4
	P.M.	12.8	15.9	7.6	14.5	13.6		18.2	20.0		26.0	28.7
LEVEL OF SERVICE	A.M.	C	C	A	C	C		B	B		B	C
	P.M.	B	B	A	B	B		B	C		C	C
V/C RATIO	A.M.	0.23	0.13	0.16	0.43	0.76		0.69	0.28		0.06	0.45
	P.M.	0.08	0.44	0.36	0.28	0.18		0.38	0.49		0.13	0.43
2026 30TH MAX. HOUR TRAFFIC	A.M.	30	75	130	175	430		435	265		25	260
	P.M.	45	375	345	100	150		170	330		35	190
2006 8TH MAX. HOUR TRAFFIC	A.M.		105			286			325			121
	P.M.		366			105			231			91

D-DISTANCE = $\frac{(1-G/C)(DHV)(1+\%\ TRUCKS)(50)}{(NO.\ CYCLES\ PER\ HOUR)(NO.\ OF\ LANES)}$ PROT./PERM.



N

0' 40' 80'

SCALE: 1" = 40'

ELEMENTS CONTROLLING DESIGN

1. DESIGN DESIGNATION: FAU ROUTE 7147 (CURTIS ROAD) - LOCAL STREET - 10,000 ADT (2026)
   WITH FAU ROUTE 7170 (FIRST STREET) -
   NORTH LEG MINOR ARTERIAL - 9,500 ADT (2026)
   SOUTH LEG LOCAL STREET - 7,500 ADT (2026)
2. FAU ROUTE 7147 (CURTIS ROAD) IS THE PREFERENCE ROUTE
3. ANTICIPATED YEAR OF CONSTRUCTION: 2006
4. TRAFFIC CONTROL TO BE FULLY ACTUATED SIGNALS (MEETS WARRANTS #1 & #3)
5. POSTED AND DESIGN SPEED: 35 MPH/45 MPH ON CURTIS ROAD; 40 MPH ON FIRST STREET
6. DESIGN VEHICLE: WB-65 (RIGHT TURNS) WB-55 (LEFT TURNS)

GENERAL NOTES

1. PROFILES ARE NOT PROVIDED, SINCE APPROACH GRADES ARE LESS THAN 1%.
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT.
3. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT/LANE LINES.
4. R.O.W., SIGNAL LOCATIONS, SIDEWALKS, AND ENTRANCE LOCATIONS ARE SUBJECT TO REVISION DURING PREPARATION OF FINAL PLANS.
5. ENTRANCES SHALL CONFORM TO POLICY ON "ACCESS TO STATE HIGHWAYS."
6. CURBS WILL BE DEPRESSED AT CROSSWALKS TO ALLOW HANDICAP ACCESS.
7. ALL PAVEMENT MARKING SHALL BE PREFORMED PLASTIC.
8. TURNING MOVEMENTS CHECKED WITH AUTOTURN.
9. RADII ALONG BIKE PATH IS 90' MIN.

SIGNAL PHASING

GREEN + (AMBER + ALL RED)

A.M.	16.0 + (3.0 + 1.0)	31.0 + (3.0 + 1.0)	29.0 + (3.0 + 1.0)
P.M.	10.0 + (3.0 + 1.0)	23.0 + (3.0 + 1.0)	43.0 + (3.0 + 1.0)

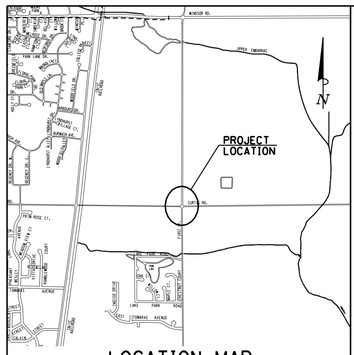
TRAFFIC DATA

MOVEMENT	YEAR 2006 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR	EST. PERCENT INCREASE BY		YEAR 30TH MAXIMUM HOUR TRAFFIC		EST. PERCENT INCREASE BY		YEAR 2026 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AB	60	325	2							75	375
BA	355	100	2							400	120
AC	110	310	2							130	345
CA	400	145	2							435	170
AD	20	30	2							30	45
DA	55	20	2							75	30
BC	145	70	2							175	100
CB	50	120	2							80	145
BD	20	20	2							30	30
DB	15	25	2							25	35
CD	140	155	2							185	185
DC	150	120	2	2006 ADT				2026 ADT		185	160
TOTAL A	1000	930		8500				9500		1145	1085
TOTAL B	645	660		5800				7500		785	805
TOTAL C	995	920		8500				10000		1190	1105
TOTAL D	400	370		3500				4500		530	485

2026 D.H.V. A.M.(P.M.)

PEAK HOUR VOLUMES A.M.(P.M.)

N



LOCATION MAP
NO SCALE

DRAWING NO. _____

INTERSECTION DESIGN STUDY

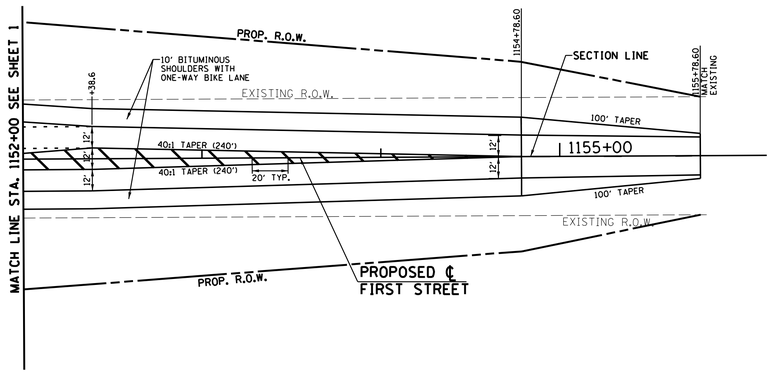
FAP ROUTE 7147 (CURTIS ROAD)
WITH
FAU ROUTE 7170 (FIRST STREET)

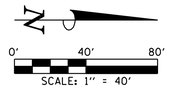
SEC. NO. 00-00374-00-ES — PROJ. NO. _____
SCALE: 1" = 40' — COUNTY CHAMPAIGN
SJN : _____ — REV. NO. ___
DESIGNED BY: CLARK DIETZ, INC. — DATE: 2-04

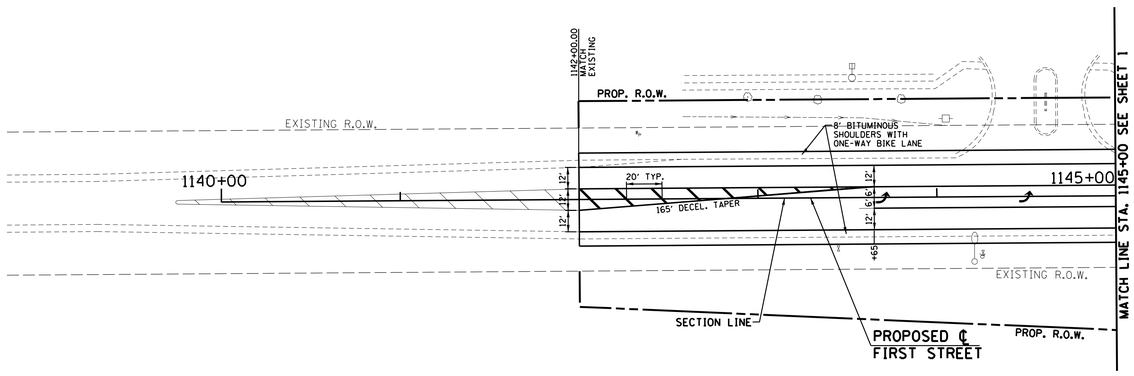
SATISFACTORY	COUNTY ENGINEER	DATE
SATISFACTORY	DISTRICT GEOMETRICS ENGINEER	DATE
SATISFACTORY	DISTRICT LOCAL ROADS ENGINEER	DATE
SATISFACTORY	DISTRICT PROGRAM DEVELOPMENT ENGINEER	DATE
SATISFACTORY	DISTRICT OPERATIONS ENGINEER	DATE
APPROVED	DISTRICT ENGINEER	DATE

I.D.S. SHEET 1 OF 2

INTERSECTION DESIGN STUDIES (FULL BUILD) EXHIBIT 35







DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 7147 (CURTIS ROAD)

WITH

FAU ROUTE 7170 (FIRST STREET)

SEC. NO. 00-00374-00-ES PROJ. NO. _____

SCALE: 1" = 40' COUNTY CHAMPAIGN

SJN : _____ REV. NO. ___

DESIGNED BY: CLARK DIETZ, INC. DATE: 2-04

SATISFACTORY _____ _____
COUNTY ENGINEER DATE

SATISFACTORY _____ _____
DISTRICT GEOMETRICS ENGINEER DATE

SATISFACTORY _____ _____
DISTRICT LOCAL ROADS ENGINEER DATE

SATISFACTORY _____
DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE

SATISFACTORY _____ _____
DISTRICT OPERATIONS ENGINEER DATE

APPROVED _____ _____
DISTRICT ENGINEER DATE

I.D.S. SHEET 2 OF 2

INTERSECTION DESIGN STUDIES (FULL BUILD)

EXHIBIT 36

CAPACITY DESIGN STUDY

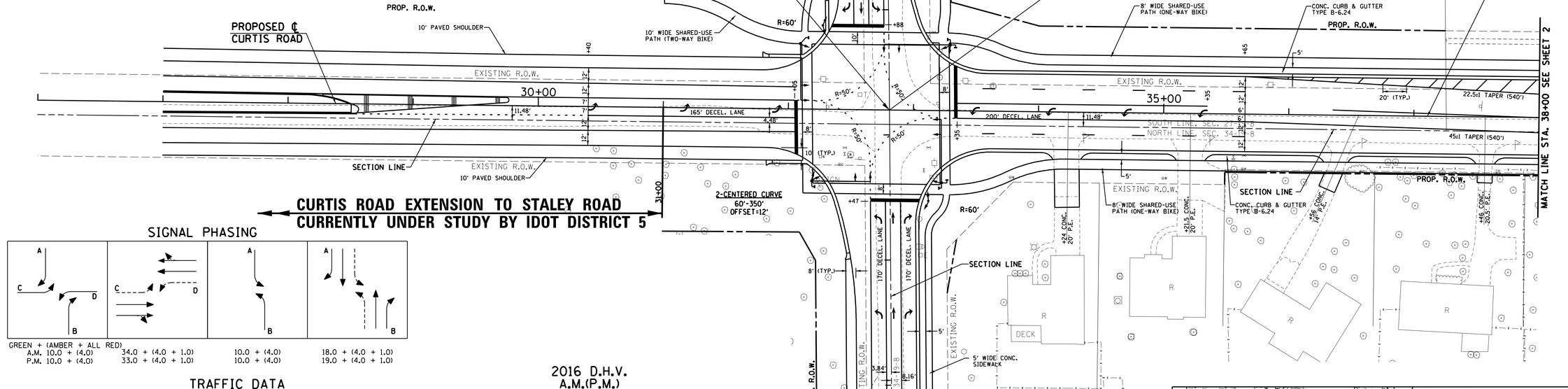
4 PHASE — AREA OTHER — PEAK HOUR FACTOR 0.95

90 SEC. CYCLE — AVERAGE INTERSECTION DELAY — A.M. 21.8 SEC. — INTERSECTION LEVEL OF SERVICE — A.M. C

SIGNAL TYPE FULLY ACTUATED — PROGRAM USED HCS/SIGNALS 2000 REL 4.1c — P.M. 22.4 SEC. — P.M. C

APPROACH		A			B			C			D	
BUS STOP CONDITION			--			--			--			--
PARKING MANEUVER/HR.			--			--			--			--
PEDESTRIANS			50			50			50			50
ARRIVAL TYPE		3	3	3	3	3	3	3	3		3	3
LANE UTILIZATION FACTOR		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95
BASE SATURATION FLOW		1900	1900	1900	1900	1900	1900	1900	1900		1900	1900
D-DISTANCE		112'		79'	114'		53'	63'			40'	
LANE GROUP		L	T	R	L	T	R	L	TR		L	TR
LANE WIDTHS		12'	12'	12'	12'	12'	12'	14'	2@12'		14'	2@12'
GREEN TIME (SECONDS)	A.M.	10.0/18.0	18.0	28.0	10.0/18.0	18.0	28.0	10.0/34.0	34.0		10.0/34.0	34.0
	P.M.	10.0/19.0	19.0	29.0	10.0/19.0	19.0	29.0	10.0/33.0	33.0		10.0/33.0	33.0
LANE GROUP DELAY (SECONDS)	A.M.	21.1	31.3	19.3	22.0	33.0	18.9	11.0	20.4		10.5	20.7
	P.M.	20.5	32.0	18.4	19.9	31.4	17.9	12.1	21.5		11.4	22.3
LEVEL OF SERVICE	A.M.	C	C	B	C	C	B	B	C		B	C
	P.M.	C	C	B	B	C	B	B	C		B	C
V/C RATIO	A.M.	0.33	0.32	0.16	0.33	0.49	0.11	0.17	0.36		0.07	0.40
	P.M.	0.35	0.47	0.12	0.25	0.41	0.07	0.23	0.41		0.13	0.49
2016 30TH MAX. HOUR TRAFFIC	A.M.	115	115	90	130	175	60	80	450		35	485
	P.M.	130	175	65	90	155	35	95	490		60	575
2006 8TH MAX. HOUR TRAFFIC	A.M.		121			116			165			201
	P.M.		149			91			173			250

D-DISTANCE = (1-G/C)(DHV)(1+% TRUCKS)(50) / (NO. CYCLES PER HOUR)(NO. OF LANES) — PROT./PERM.



ELEMENTS CONTROLLING DESIGN

1. DESIGN DESIGNATION: FAP ROUTE 807 (CURTIS ROAD) - OTHER PRINCIPAL ARTERIAL - 11,200 ADT (2016) WITH FAU ROUTE 7155 (DUNCAN ROAD) - COLLECTOR - 6,400 ADT (2016)
2. FAP ROUTE 807 (CURTIS ROAD) IS THE PREFERENCE ROUTE
3. ANTICIPATED YEAR OF CONSTRUCTION: 2006
4. TRAFFIC CONTROL TO BE FULLY ACTUATED SIGNALS (MEETS WARRANTS #1 & #3)
5. POSTED AND DESIGN SPEED: 35 MPH/45 MPH
6. DESIGN VEHICLE: WB-65

GENERAL NOTES

1. PROFILES ARE PROVIDED FOR DUNCAN ROAD ON SHEET 2. PROFILES ARE NOT PROVIDED FOR CURTIS ROAD SINCE APPROACH GRADES ARE LESS THAN 1%.
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT.
3. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT/LANE LINES.
4. R.O.W., SIGNAL LOCATIONS, SIDEWALKS, AND ENTRANCE LOCATIONS ARE SUBJECT TO REVISION DURING PREPARATION OF FINAL PLANS.
5. ENTRANCES SHALL CONFORM TO POLICY ON "ACCESS TO STATE HIGHWAYS."
6. CURBS WILL BE DEPRESSED AT CROSSWALKS TO ALLOW HANDICAP ACCESS.
7. ALL PAVEMENT MARKING SHALL BE PREFORMED PLASTIC.
8. TURNING MOVEMENTS CHECKED WITH AUTOTURN.
9. RADII ALONG SHARED-USE PATH IS 90' MIN.

SIGNAL PHASING

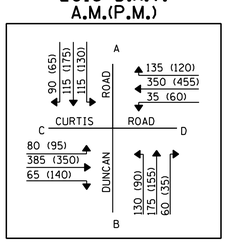
GREEN + (AMBER + ALL RED)

A.M.	10.0 + (4.0)	34.0 + (4.0 + 1.0)	10.0 + (4.0)	18.0 + (4.0 + 1.0)
P.M.	10.0 + (4.0)	33.0 + (4.0 + 1.0)	10.0 + (4.0)	19.0 + (4.0 + 1.0)

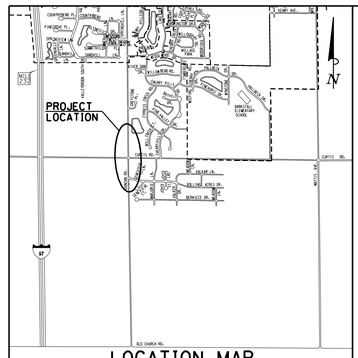
TRAFFIC DATA

MOVEMENT	YEAR 2006 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR	EST. PERCENT INCREASE BY		YEAR 30TH MAXIMUM HOUR TRAFFIC		EST. PERCENT INCREASE BY		YEAR 2016 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AB	90	135	2							115	175
BA	145	120	2							175	155
AC	30	25	2							90	65
CA	25	30	2							80	95
AD	100	110	2							115	130
DA	120	90	2							135	120
BC	25	20	2							130	90
CB	15	25	2							65	140
BD	40	25	2							60	35
DB	25	40	2							35	60
CD	260	260	2							385	350
DC	220	325	2	2006 ADT				2016 ADT		350	455
TOTAL A	510	510		4500				6400		710	740
TOTAL B	340	365		3250				5600		550	655
TOTAL C	575	685		6000				11200		1100	1195
TOTAL D	765	850		7800				11100		1080	1150

2016 D.H.V. A.M.(P.M.)



PEAK HOUR VOLUMES A.M.(P.M.)



LOCATION MAP
NO SCALE

DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)

WITH

FAU ROUTE 7155 (DUNCAN ROAD)

SEC. NO. 00-00374-00-ES — PROJ. NO. _____

SCALE: 1" = 40' — COUNTY CHAMPAIGN

SJN : _____ — REV. NO. ___

DESIGNED BY: CLARK DIETZ, INC. — DATE: 11/02

SATISFACTORY _____ COUNTY ENGINEER — DATE

SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER — DATE

SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER — DATE

SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER — DATE

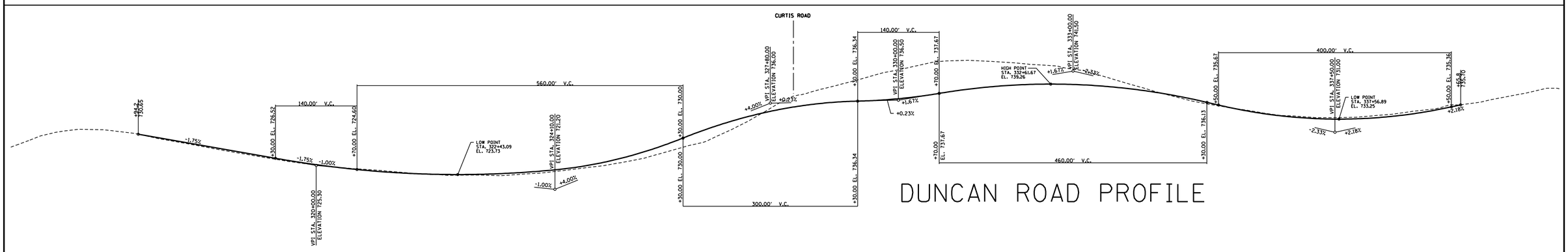
SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER — DATE

APPROVED _____ DISTRICT ENGINEER — DATE

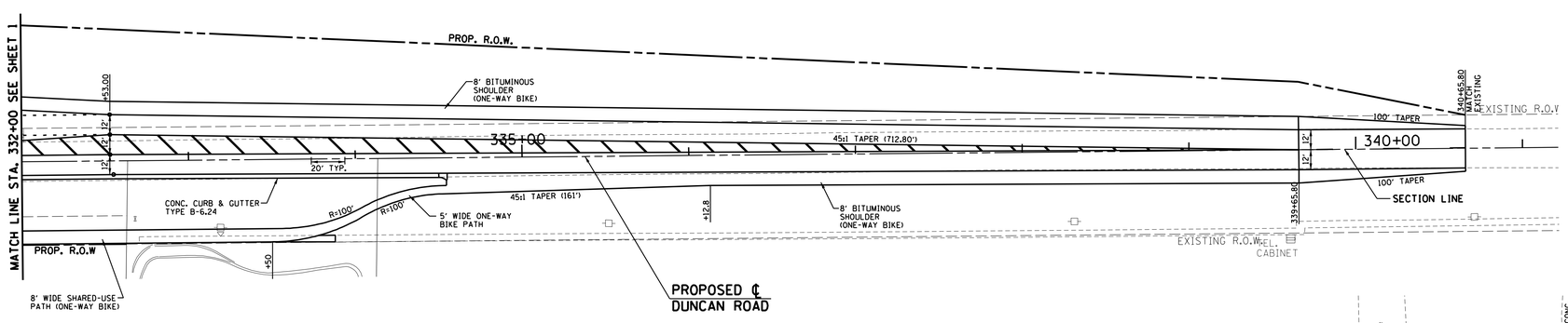
INTERIM

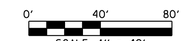
I.D.S. SHEET 1 OF 2

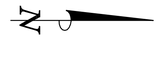
INTERSECTION DESIGN STUDIES (INTERIM BUILD) EXHIBIT 37

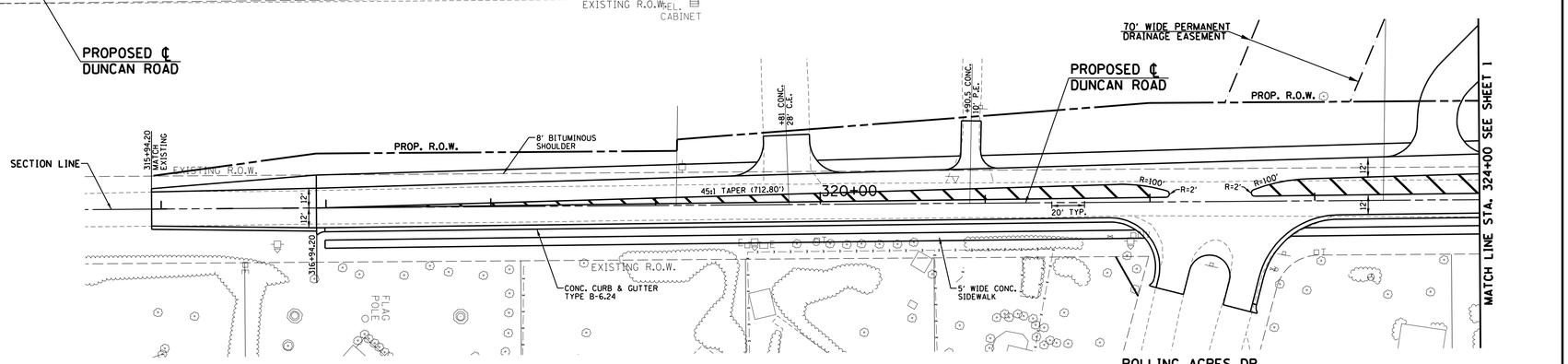


DUNCAN ROAD PROFILE



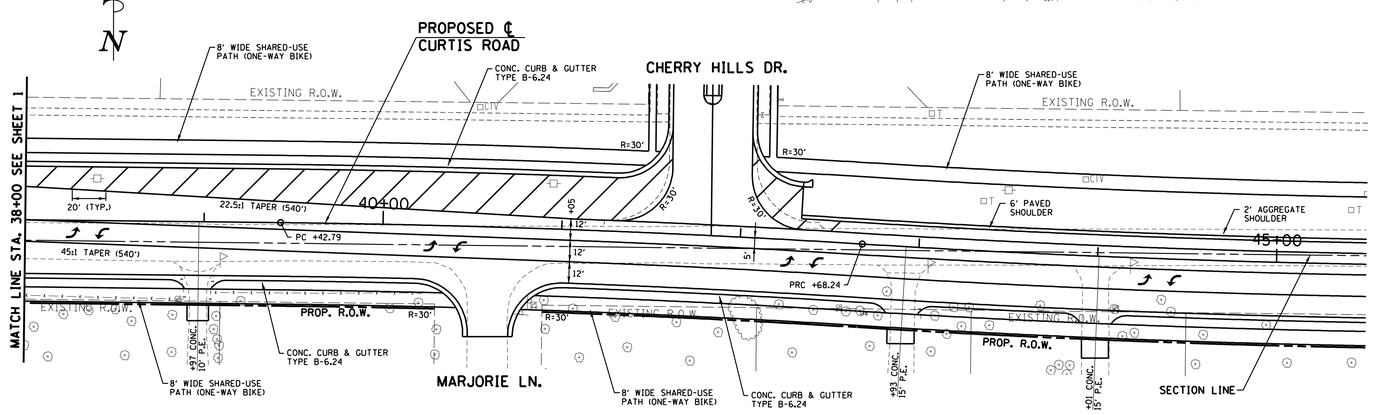






Prop. Curve PCURT1
PI Sta. 41+05.55
Δ = 2° 53' 17" (RT)
D = 0° 53' 15"
T = 162.76'
R = 6,456.68'
L = 325.45'
E = 2.05'
PC Sta. 39+42.79
PRC Sta. 42+68.24
(S.E. NOT REQUIRED)

Prop. Curve PCURT2
PI Sta. 44+31.00
Δ = 2° 53' 17" (LT)
D = 0° 53' 15"
T = 162.76'
R = 6,456.68'
L = 325.45'
E = 2.05'
PRC Sta. 42+68.24
PT Sta. 45+93.69
(S.E. NOT REQUIRED)



DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)
WITH
FAU ROUTE 7155 (DUNCAN ROAD)

SEC. NO. 00-00374-00-ES PROJ. NO. _____
SCALE: 1" = 40' COUNTY CHAMPAIGN
SJN : _____ REV. NO. ___
DESIGNED BY: CLARK DIETZ, INC. DATE: 11/02

SATISFACTORY _____ COUNTY ENGINEER DATE
SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER DATE
SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER DATE
SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE
SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER DATE
APPROVED _____ DISTRICT ENGINEER DATE

INTERIM

I.D.S. SHEET 2 OF 2

INTERSECTION DESIGN STUDIES (INTERIM BUILD) EXHIBIT 38

CAPACITY DESIGN STUDY

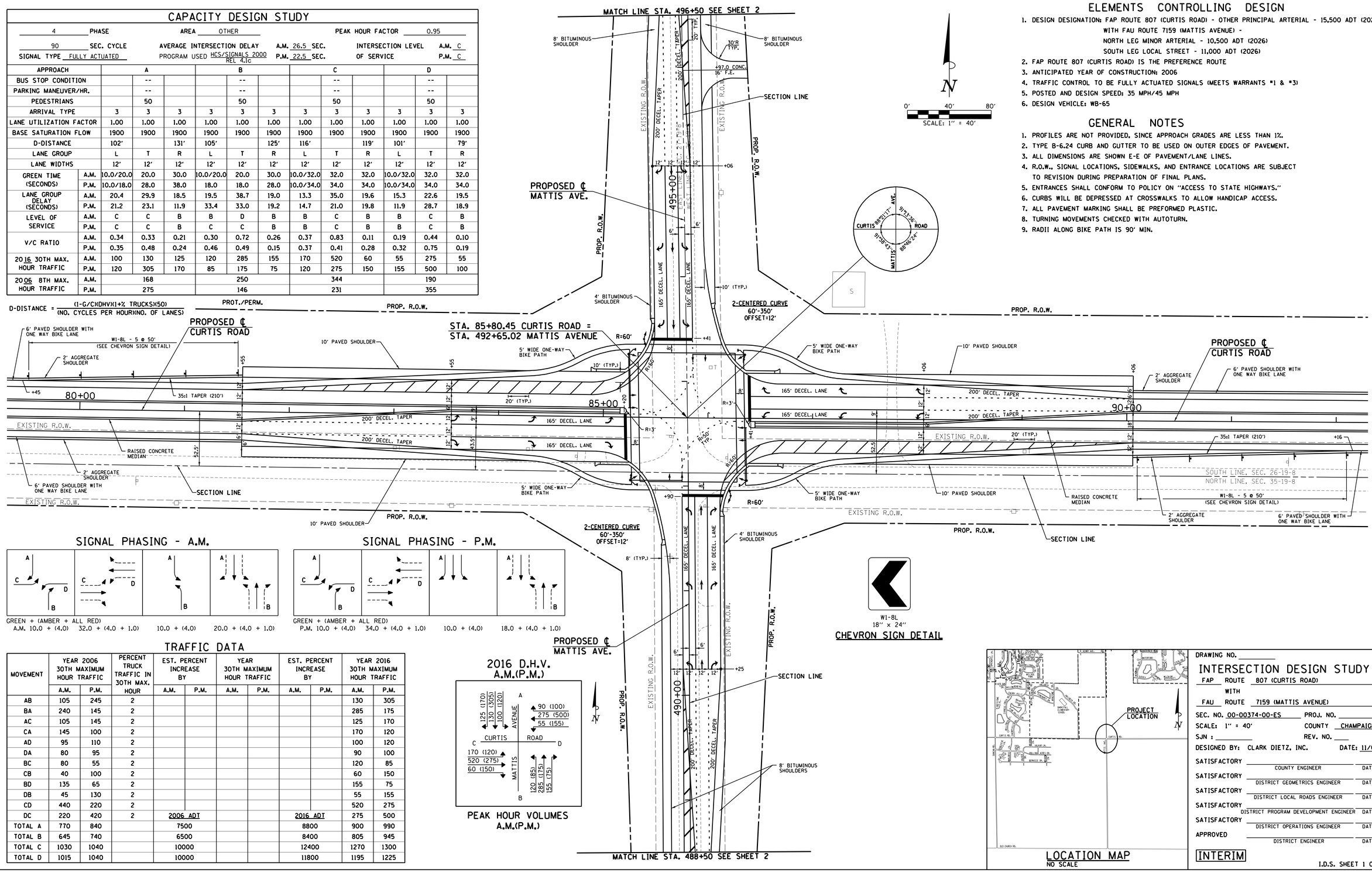
4 PHASE — AREA OTHER — PEAK HOUR FACTOR 0.95

90 SEC. CYCLE — AVERAGE INTERSECTION DELAY — A.M. 26.5 SEC. — INTERSECTION LEVEL OF SERVICE — A.M. C

SIGNAL TYPE FULLY ACTUATED — PROGRAM USED HCS/SIGNALS 2000 REL 4.1c — P.M. 22.5 SEC. — P.M. C

APPROACH		A			B			C			D		
BUS STOP CONDITION			--			--			--			--	
PARKING MANEUVER/HR.			--			--			--			--	
PEDESTRIANS			50			50			50			50	
ARRIVAL TYPE		3	3	3	3	3	3	3	3	3	3	3	3
LANE UTILIZATION FACTOR		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
BASE SATURATION FLOW		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
D-DISTANCE		102'		131'	105'		125'	116'		119'	101'		79'
LANE GROUP		L	T	R	L	T	R	L	T	R	L	T	R
LANE WIDTHS		12'	12'	12'	12'	12'	12'	12'	12'	12'	12'	12'	12'
GREEN TIME (SECONDS)	A.M.	10.0/20.0	20.0	30.0	10.0/20.0	20.0	30.0	10.0/32.0	32.0	32.0	10.0/32.0	32.0	32.0
	P.M.	10.0/18.0	28.0	38.0	18.0	18.0	28.0	10.0/34.0	34.0	34.0	10.0/34.0	34.0	34.0
LANE GROUP DELAY (SECONDS)	A.M.	20.4	29.9	18.5	19.5	38.7	19.0	13.3	35.0	19.6	15.3	22.6	19.5
	P.M.	21.2	23.1	11.9	33.4	33.0	19.2	14.7	21.0	19.8	11.9	28.7	18.9
LEVEL OF SERVICE	A.M.	C	C	B	B	D	B	B	C	B	B	C	B
	P.M.	C	C	B	C	C	B	B	C	B	B	C	B
V/C RATIO	A.M.	0.34	0.33	0.21	0.30	0.72	0.26	0.37	0.83	0.11	0.19	0.44	0.10
	P.M.	0.35	0.48	0.24	0.46	0.49	0.15	0.37	0.41	0.28	0.32	0.75	0.19
2016 30TH MAX. HOUR TRAFFIC	A.M.	100	130	125	120	285	155	170	520	60	55	275	55
	P.M.	120	305	170	85	175	75	120	275	150	155	500	100
2006 8TH MAX. HOUR TRAFFIC	A.M.		168			250			344			190	
	P.M.		275			146			231			355	

D-DISTANCE = (1-G/C)(DHV)(1+% TRUCKS)(50) / (NO. CYCLES PER HOUR)(NO. OF LANES)



ELEMENTS CONTROLLING DESIGN

1. DESIGN DESIGNATION: FAP ROUTE 807 (CURTIS ROAD) - OTHER PRINCIPAL ARTERIAL - 15,500 ADT (2026)
   WITH FAU ROUTE 7159 (MATTIS AVENUE) -
   NORTH LEG MINOR ARTERIAL - 10,500 ADT (2026)
   SOUTH LEG LOCAL STREET - 11,000 ADT (2026)
2. FAP ROUTE 807 (CURTIS ROAD) IS THE PREFERENCE ROUTE
3. ANTICIPATED YEAR OF CONSTRUCTION: 2006
4. TRAFFIC CONTROL TO BE FULLY ACTUATED SIGNALS (MEETS WARRANTS #1 & #3)
5. POSTED AND DESIGN SPEED: 35 MPH/45 MPH
6. DESIGN VEHICLE: WB-65

GENERAL NOTES

1. PROFILES ARE NOT PROVIDED, SINCE APPROACH GRADES ARE LESS THAN 1%.
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT.
3. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT/LANE LINES.
4. R.O.W., SIGNAL LOCATIONS, SIDEWALKS, AND ENTRANCE LOCATIONS ARE SUBJECT TO REVISION DURING PREPARATION OF FINAL PLANS.
5. ENTRANCES SHALL CONFORM TO POLICY ON "ACCESS TO STATE HIGHWAYS."
6. CURBS WILL BE DEPRESSED AT CROSSWALKS TO ALLOW HANDICAP ACCESS.
7. ALL PAVEMENT MARKING SHALL BE PREFORMED PLASTIC.
8. TURNING MOVEMENTS CHECKED WITH AUTOTURN.
9. RADII ALONG BIKE PATH IS 90' MIN.

SIGNAL PHASING - A.M.

GREEN + (AMBER + ALL RED)
A.M. 10.0 + (4.0) 32.0 + (4.0 + 1.0) 10.0 + (4.0) 20.0 + (4.0 + 1.0)

SIGNAL PHASING - P.M.

GREEN + (AMBER + ALL RED)
P.M. 10.0 + (4.0) 34.0 + (4.0 + 1.0) 10.0 + (4.0) 18.0 + (4.0 + 1.0)

TRAFFIC DATA

MOVEMENT	YEAR 2006 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR	EST. PERCENT INCREASE BY		YEAR 30TH MAXIMUM HOUR TRAFFIC		EST. PERCENT INCREASE BY		YEAR 2016 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AB	105	245	2							130	305
BA	240	145	2							285	175
AC	105	145	2							125	170
CA	145	100	2							170	120
AD	95	110	2							100	120
DA	80	95	2							90	100
BC	80	55	2							120	85
CB	40	100	2							60	150
BD	135	65	2							155	75
DB	45	130	2							55	155
CD	440	220	2							520	275
DC	220	420	2	2006 ADT				2016 ADT		275	500
TOTAL A	770	840		7500				8800		900	990
TOTAL B	645	740		6500				8400		805	945
TOTAL C	1030	1040		10000				12400		1270	1300
TOTAL D	1015	1040		10000				11800		1195	1225

2016 D.H.V. A.M.(P.M.)

PEAK HOUR VOLUMES A.M.(P.M.)

CHEVRON SIGN DETAIL

LOCATION MAP
NO SCALE

DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)
WITH
FAU ROUTE 7159 (MATTIS AVENUE)

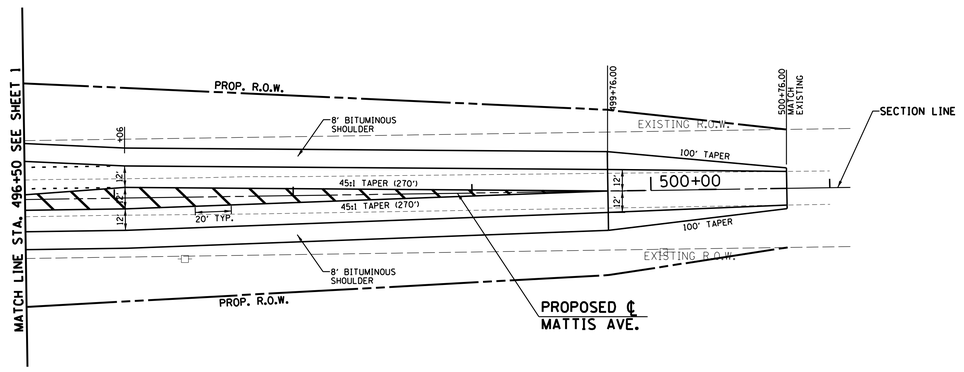
SEC. NO. 00-00374-00-ES — PROJ. NO. _____
SCALE: 1" = 40' — COUNTY CHAMPAIGN
SJN : _____ — REV. NO. ____
DESIGNED BY: CLARK DIETZ, INC. — DATE: 11/02

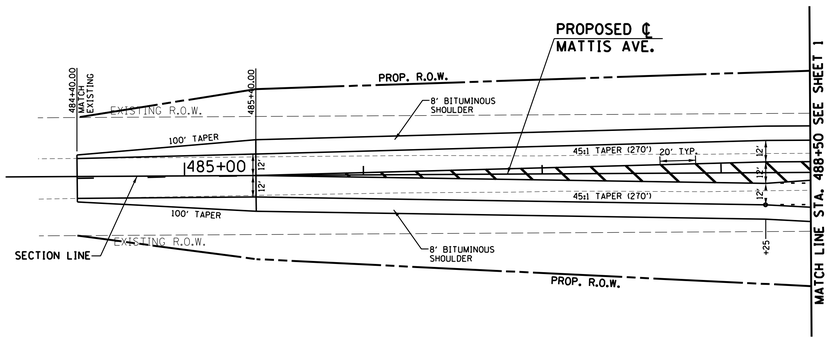
SATISFACTORY _____ COUNTY ENGINEER — DATE
SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER — DATE
SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER — DATE
SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER — DATE
SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER — DATE
APPROVED _____ DISTRICT ENGINEER — DATE

INTERIM

I.D.S. SHEET 1 OF 2

INTERSECTION DESIGN STUDIES (INTERIM BUILD) EXHIBIT 39





DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)

WITH

FAU ROUTE 7159 (MATTIS AVENUE)

SEC. NO. 00-00374-00-ES PROJ. NO. _____

SCALE: 1" = 40' COUNTY CHAMPAIGN

SJN : _____ REV. NO. ___

DESIGNED BY: CLARK DIETZ, INC. DATE: 11/02

SATISFACTORY _____ _____
COUNTY ENGINEER DATE

SATISFACTORY _____ _____
DISTRICT GEOMETRICS ENGINEER DATE

SATISFACTORY _____ _____
DISTRICT LOCAL ROADS ENGINEER DATE

SATISFACTORY _____ _____
DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE

SATISFACTORY _____ _____
DISTRICT OPERATIONS ENGINEER DATE

APPROVED _____ _____
DISTRICT ENGINEER DATE

INTERIM

I.D.S. SHEET 2 OF 2

INTERSECTION DESIGN STUDIES (INTERIM BUILD) EXHIBIT 40

CAPACITY DESIGN STUDY

2 PHASE — AREA OTHER — PEAK HOUR FACTOR 0.95

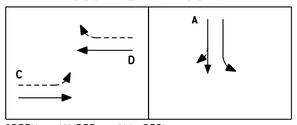
90 SEC. CYCLE — AVERAGE INTERSECTION DELAY — A.M. 16.4 SEC. — INTERSECTION LEVEL OF SERVICE — A.M. B

SIGNAL TYPE FULLY ACTUATED — PROGRAM USED HCS/SIGNALS 2000 REL 4.1d — P.M. 16.9 SEC. — P.M. B

APPROACH		A			B			C			D	
BUS STOP CONDITION								--			--	
PARKING MANEUVER/HR.								--			--	
PEDESTRIANS			50			50			50		50	
ARRIVAL TYPE		3	3		3		3	3			3	3
LANE UTILIZATION FACTOR		1.00	1.00		1.00		1.00	0.95			0.95	1.00
BASE SATURATION FLOW		1900	1900		1900		1900	1900			1900	1900
D-DISTANCE		161'					60'					
LANE GROUP		L	TR		LTR		L	TR			T	R
LANE WIDTHS		12'	12'		12'		12'	12'			12'	12'
GREEN TIME (SECONDS)	A.M.	33.0	33.0		33.0		47.0	47.0			47.0	47.0
	P.M.	33.0	33.0		33.0		47.0	47.0			47.0	47.0
LANE GROUP DELAY (SECONDS)	A.M.	20.0	18.9		18.2		12.2	19.1			13.2	11.7
	P.M.	21.3	19.5		18.2		12.7	13.6			19.1	11.8
LEVEL OF SERVICE	A.M.	B	B		B		B	B			B	B
	P.M.	C	B		B		B	B			B	B
V/C RATIO	A.M.	0.24	0.12		0.02		0.26	0.72			0.39	0.21
	P.M.	0.37	0.19		0.02		0.28	0.44			0.72	0.23
2016 30TH MAX. HOUR TRAFFIC	A.M.	115	65		10		107	665			360	160
	P.M.	180	95		10		70	405			665	170
2006 8TH MAX. HOUR TRAFFIC	A.M.		91					369			245	
	P.M.		146					217			396	

D-DISTANCE = $\frac{(1-G/C)(DHV)(1+\%\ TRUCKS)(50)}{(NO.\ CYCLES\ PER\ HOUR)(NO.\ OF\ LANES)}$ PROT./PERM.

SIGNAL PHASING



GREEN + (AMBER + ALL RED)

A.M. 47.0 + (4.0 + 1.0) 33.0 + (4.0 + 1.0)

P.M. 47.0 + (4.0 + 1.0) 33.0 + (4.0 + 1.0)

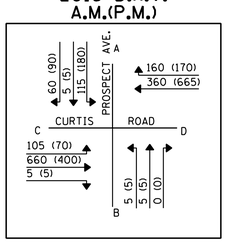
W1-8L
18" × 24"

CHEVRON SIGN DETAIL

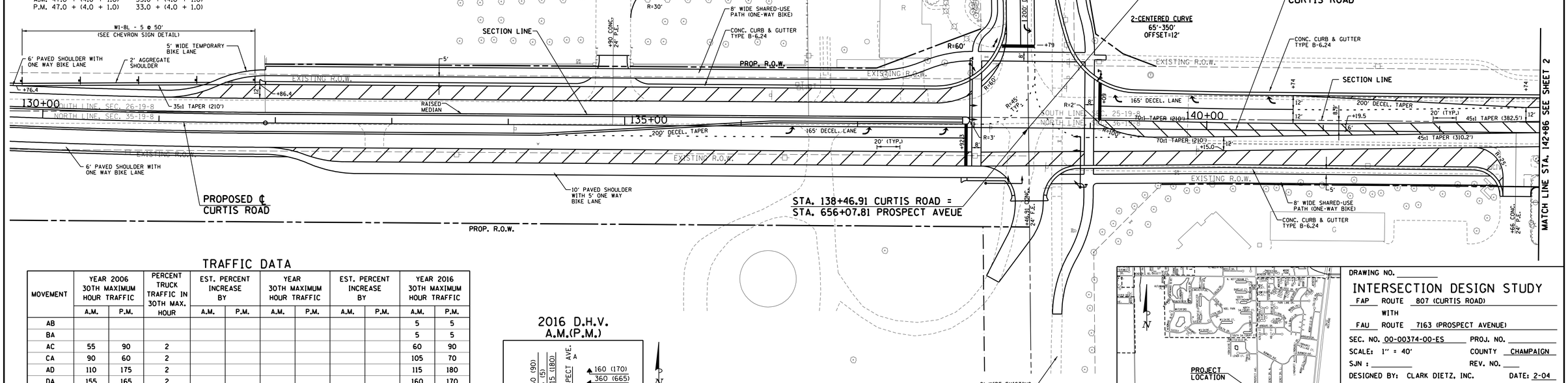
TRAFFIC DATA

MOVEMENT	YEAR 2006 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR	EST. PERCENT INCREASE BY		YEAR 30TH MAXIMUM HOUR TRAFFIC		EST. PERCENT INCREASE BY		YEAR 2016 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AB										5	5
BA										5	5
AC	55	90	2							60	90
CA	90	60	2							105	70
AD	110	175	2							115	180
DA	155	165	2							160	170
BC										5	5
CB										5	5
BD										---	---
DB										---	---
CD	580	335	2							660	400
DC	290	555	2	2006 ADT				2016 ADT		360	665
TOTAL A	410	490		4500				4600		450	520
TOTAL B				---				40		20	20
TOTAL C	1015	1040		10000				14000		1195	1235
TOTAL D	1135	1230		11500				15000		1295	1415

2016 D.H.V.
A.M.(P.M.)



PEAK HOUR VOLUMES
A.M.(P.M.)

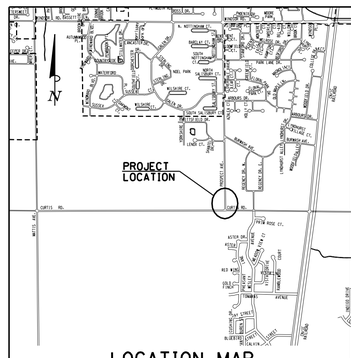


ELEMENTS CONTROLLING DESIGN

1. DESIGN DESIGNATION:
   FAP ROUTE 807 (CURTIS ROAD) - OTHER PRINCIPAL ARTERIAL - 14,500 ADT (2016)
   WITH FAU ROUTE 7163 (PROSPECT AVE.) - COLLECTOR - 5,100 ADT (2016)
2. FAP ROUTE 807 (CURTIS ROAD) IS THE PREFERENCE ROUTE
3. ANTICIPATED YEAR OF CONSTRUCTION: 2006
4. TRAFFIC CONTROL TO BE FULLY ACTUATED SIGNALS (MEETS WARRANTS #1 & #3)
5. POSTED AND DESIGN SPEED: 35 MPH/45 MPH ON CURTIS ROAD; 35 MPH/40 MPH ON PROSPECT AVE.
6. DESIGN VEHICLE: WB-65

GENERAL NOTES

1. PROFILES ARE NOT PROVIDED, SINCE APPROACH GRADES ARE LESS THAN 1%.
2. TYPE B-6.24 CURB AND GUTTER TO BE USED ON OUTER EDGES OF PAVEMENT.
3. ALL DIMENSIONS ARE SHOWN E-E OF PAVEMENT/LANE LINES.
4. R.O.W., SIGNAL LOCATIONS, SIDEWALKS, AND ENTRANCE LOCATIONS ARE SUBJECT TO REVISION DURING PREPARATION OF FINAL PLANS.
5. ENTRANCES SHALL CONFORM TO POLICY ON "ACCESS TO STATE HIGHWAYS."
6. CURBS WILL BE DEPRESSED AT CROSSWALKS TO ALLOW HANDICAP ACCESS.
7. ALL PAVEMENT MARKING SHALL BE PREFORMED PLASTIC.
8. TURNING MOVEMENTS CHECKED WITH AUTOTURN.
9. RADII ALONG SHARED-USE PATH IS 90' MIN.



LOCATION MAP
NO SCALE

DRAWING NO. ____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)

WITH

FAU ROUTE 7163 (PROSPECT AVENUE)

SEC. NO. 00-00374-00-ES PROJ. NO. ____

SCALE: 1" = 40' COUNTY CHAMPAIGN

SJN : ____ REV. NO. ____

DESIGNED BY: CLARK DIETZ, INC. DATE: 2-04

SATISFACTORY ____ COUNTY ENGINEER DATE

SATISFACTORY ____ DISTRICT GEOMETRICS ENGINEER DATE

SATISFACTORY ____ DISTRICT LOCAL ROADS ENGINEER DATE

SATISFACTORY ____ DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE

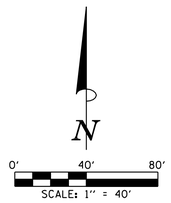
SATISFACTORY ____ DISTRICT OPERATIONS ENGINEER DATE

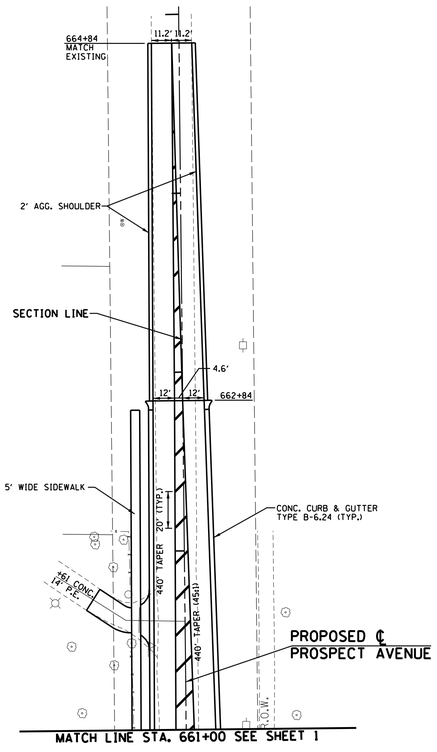
APPROVED ____ DISTRICT ENGINEER DATE

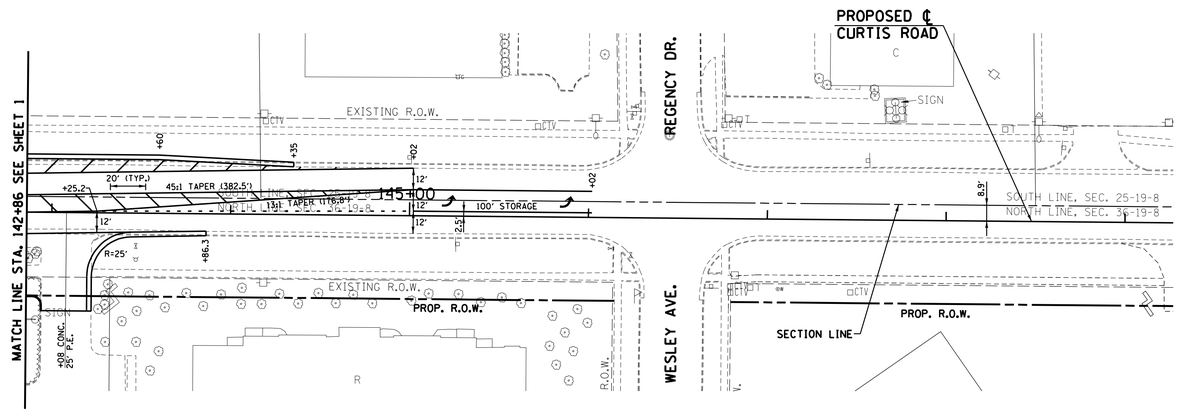
INTERIM

I.D.S. SHEET 1 OF 2

INTERSECTION DESIGN STUDIES (INTERIM BUILD) EXHIBIT 41







DRAWING NO. _____

INTERSECTION DESIGN STUDY

FAP ROUTE 807 (CURTIS ROAD)

WITH

FAU ROUTE 7163 (PROSPECT AVENUE)

SEC. NO. 00-00374-00-ES PROJ. NO. _____

SCALE: 1" = 40' COUNTY CHAMPAIGN

SJN : _____ REV. NO. ___

DESIGNED BY: CLARK DIETZ, INC. DATE: 2-04

SATISFACTORY _____ COUNTY ENGINEER _____ DATE

SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER _____ DATE

SATISFACTORY _____ DISTRICT LOCAL ROADS ENGINEER _____ DATE

SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER _____ DATE

SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER _____ DATE

APPROVED _____ DISTRICT ENGINEER _____ DATE

INTERIM

I.D.S. SHEET 2 OF 2

INTERSECTION DESIGN STUDIES (INTERIM BUILD) EXHIBIT 42